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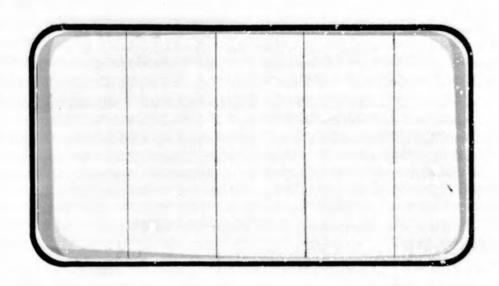
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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION



(NASA-CR-144613) RESULTS OF AN AERODYNAMIC INVESTIGATION OF A SPACE SHUTTLE ORBITER/747 CARRIER FLIGHT TEST CONFIGURATION TO DETERMINE SEPARATION CHARACTERISTICS UTILIZING 0.0125-SCALE MODELS (CHRYSLER N76-25323 HC\$18.75

UNCL AS G3/18 41822

SPACE SHUTTLE

AEROTHERMODYNAMIC DATA REPORT



JOHNSON SPACE CENTER HOUSTON, TEXAS

DATA MANagement services

SPACE DIVISION CHRYSLER
CORPORATION

DMS-DR-2273 NASA CR-144,613 VOLUME 2 OF 5

RESULTS OF AN AERODYNAMIC INVESTIGATION OF A

SPACE SHUTTLE ORBITER/747 CARRIER FLIGHT TEST

CONFIGURATION TO DETERMINE SEPARATION CHARACTERISTICS

UTILIZING 0.0125-SCALE MODELS (48-0/AX13181-1) IN

THE LTV 4 x 4-FOOT HIGH SPEED WIND TUNNEL (CA26)

by

R. L. Gillins Shuttle Aerosciences Rockwell International Space Division

Prepared Under NASA Contract Number NAS9-13247

by

Data Management Services Chrysler Corporation Space Division New Orleans, La. 70189

for

Engineering Analysis Division

Johnson Space Center
National Aeronautics and Space Administration
Houston, Texas

WIND TUNNEL TEST SPECIFICS:

Test Number:

LTV HSWT 559

NASA Series Number:

CA26

95

Model Number:

48-0 Orbiter/AX1318I-1 747

Test Dates:

August 1 through August 15, 1975

Occupancy Hours:

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Chrysler Corporation Space Division assumes no responsibility for the data presented other than display characteristics.

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CONFIGURATION TO DETERMINE SEPARATION CHARACTERISTICS

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R. L. Gillins Shuttle Aerosciences Rockwell International Space Division

ABSTRACT

This report presents results of tests conducted on a 0.0125-scale model of the VC70-000002 Space Shuttle Orbiter and a 0.0125-scale model of the 747 CAM configuration in the LATV 4 x 4-foot High Speed Wind Tunnel. Force and moment data were obtained for each vehicle separately at a Mach number of 0.6 and for each vehicle in proximity to the other at Mach numbers of 0.3, 0.5, 0.6 and 0.7.

The enclosed data present the proximity effects of each vehicle on the other at separation distances (from the mated configuration) ranging from 1.5 feet to 75 feet; 747 Carrier angles of attack from 0 degrees to 6 degrees and angles of sideslip of 0° and -5° were tested. The Orbiter was tested in proximity to the 747 at incidence angles of 4 degrees, 6 degrees and 8 degrees and angles of sideslip of 0 degrees and ±5 degrees. The Orbiter alone was tested at angles of attack from 0 degrees to 17 degrees at angles of sideslip of 0 degrees.

ABSTRACT (Concluded)

Model variables include orbiter elevon, aileron and body flap deflections, orbiter tailcone on and off, and 747 stabilizer and rudder deflections. The tests, designated CA26, were conducted from August 1 through August 15, 1975.

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132	CARRIER ISOLATED, RFE026	В	1025-103
133	CARRIER ISOLATED, RFE027	В	1033-104
134	CARRIER ISOLATED, RFE028	В	1041-104
135	CARRIER ISOLATED, RFE029	В	1049-105
136	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 0, IORB = 4, BETAC = 0, BETAO = 0, RFEO30	С	1057-106

FIGURE NUMBER	TITLE	COEFFICIENT SCHEDULE	PAGES
137	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 0, IORB = 6, BETAC = 0, BETAO = 0, RFEO31	С	1065-1072
138	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 0, IORB = 6, BETAC = 0, BETAO = 0, RFEO32	С	1073-1080
139	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 0, IORB = 6, BETAC = 0, BETAO = 0, RFEO33	c	1081-1088
140	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 0, IORB = 8, BETAC = 0, BETAO = 0, RFEO34	С	1089-1096
141	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 0, IORB = 4, BETAC = 0, BETAO = 5, RFEO35	С	1097-1104
142	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 0, IORB = 6, BETAC = 0, BETAO = 5, RFEO36	С	1105-1112
143	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 0, IORB = 8, BETAC = 0, BETAO = 5, RFEO37	С	1113-1120
144	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 0 IORB = 4, BETAC = 0, BETAO = 0, RFEO38	С	1121-1128
145	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 0, IORB = 6, BETAC = 0, BETAO = 0, RFEO39	С	1129-1136
146	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 0, IORB = 8, BETAC = 0, BETAO = 0, RFEO40	С	1137-1144
147	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 4, BETAC = 0, BETAO = 0, RFEO41	С	1145-1152

FIGURE NUMBER	TITLE	COEFFICIENT SCHEDULE	PAGES
148	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 6, BETAC = 0, BETAO = 0, RFEO42	С	1153-1160
149	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 4, BETAC = 0, BETAO = 0, RFEO45	c	1161-1168
150	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 6, BETAC = 0, BETAO = 0, RFEO46	c	1169-1176
151	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 8, BETAC = 0, BETAO = 0, RFEO47	c	1177-1184
152	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 4, BETAC = 0, BETAO = 5, RFEO48	c	1185-1192
153	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 6, BETAC = 0, BETAO = 5, RFEO49	c	1193-1200
154	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 8, BETAC = 0, BETAO = 5, RFEO50	c	1201-1208
155	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 4, BETAC = 0, BETAO = 0, RFEO51	С	1209-1216
156	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 6, BETAC = 0, BETAO = 0, RFEO52	С	1217-1224
157	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 6, BETAC = 0, BETAO = 0, RFEO53	E	1225-123
158	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 6, BETAC = 0, BETAO = 0, REF054	Е	1233-124

FIGURE NUMBER	TITLE	COEFFICIENT SCHEDULE	PAGES
159	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 6, BETAC = 0, BETAO = 0, RFE055	E	1241-1248
160	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 6, BETAC = 0, BETAO = 5, RFE056	E	1249-1256
161	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 6, BETAC = 0, BETAO = 5, RFE057	E	1257-1264
162	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 6. BETAC = 0. BETAO = 5, RFE058	E	1265-1272
163	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 6, BETAC = 0, BETAO = 0, RFE059	E	1273-1280
164	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 6. BETAC = 0. BETAO = 0, REF060	E	1281-1288
VOLUME 165	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 6. BETAC = 0. BETAO = 0, REFO61	Е	1289-1296
166	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 6. BETAC = 0, BETAO = 0, REF062	D	1297-1304
167	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 6, BETAC = 0, BETAO = 0, REF063	D	1305-131
168	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, ICRB = 6, BETAC = 0, BETAO = 0, REF064	D	1313-132
169	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 6, BETAC = 0, BETAO = 5, RFE065	D	1321-132

FIGURE NUMBER	TITLE	COEFFICIENT SCHEDULE	PAGES
170	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 6, BETAC = 0, BETAO = 5, RFE066	D	1329-1336
171	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 6, BETAC = 0, BETAO = 5, RFEO67	D	1337-1344
172	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 4, BETAC = 0, BETAO = 0, RFE068	С	1345-1352
173	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 6, BETAC = 0, BETAO = 0, RFEO69	С	1353-1360
174	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 8, BETAC = 0, BETAO = 0, RFE070	- с	1361-1368
175	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 4, BETAC = 0, BETAO = 0, RFE071	С	1369-1376
176	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 6, BETAC = 0, BETAO = 0, RFE072	c	1377-1384
177	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 8, BETAC = 0, BETAO = 0, RFE073	С	1385-1392
178	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 4, BETAC = 0, BETAO = 0, RFE074	c	1393-1400
179	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 6, BETAC = 0, BETAO = 0, RFEO75	c	1401-1408
180	CARRIER DATA, ORB, PROXIMITY, ALPHAC = 2, IORB = 8, BETAC = 0, BETAO = 0, RFE076	С	1409-1416

FIGURE NUMBER	TITLE	COEFFICIENT SCHEDULE	PAGES
181	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 6, BETAC = 0, BETAO = 0, RFE077	С	1417-1424
182	CAR. DATA, ORB. PROXIMITY, ALPHAC = 2, IORB=6, BETAC=BETAO = 0, AILRON = -5, RFEO78	С	1425-1432
183	CAR. DATA, ORB. PROXIMITY, ALPHAC = 2, IORB=6, BETAC=BETAO = 0, RUDDER = 10, RFEO79	c	1433-1440
184	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 4, BETAC = -5, BETAO = -5, RFE080	С	1441-1448
185	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 6, BETAC = -5, BETAO = -5, RFEO81	С	1449-1456
186	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 8, BETAC = -5, BETAO = -5, RFEO82	С	1457-1464
187	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 6, BETAC = -5, BETAO = 0, RFE083	D	1465-1472
188	CARRIER DATA, ORB, PROXIMITY, ALPHAC = 2, IORB = 6, BETAC = -5, BETAO = 0, RFEO84	D	1473-1480
189	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 6, BETAC = -5, BETAO = 0, RFE085	D	1481-1488
190	CARRIER DATA, ORB, PROXIMITY, ALPHAC = 2, IORB = 6, BETAC = -5, BETAO = 0, RFE086	Е	1489-1496
191	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 6, BETAC = -5, BETAO = 0, RFEO87	Е	1497-1504

FIGURE NUMBER	TITLE	COEFFICIENT SCHEDULE	PAGES
192	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 6, BETAC = -5, BETAO = 0, RFE088	Е	1505-1512
193	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 4, IORB = 4, BETAC = 0, BETAO = 0, RFE089	С	1513-1520
194	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 4, IORB = 6, BETAC = 0, BETAO = 0, RFE090	C	1521-1528
195	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 4, IORB = 8, BETAC = 0, BETAO = 0, RFE091	С	1529-1536
196	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 4, IORB = 4, BETAC = 0, BETAO = 5, RFE092	С	1537-1544
197	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 4, IORB = 6, BETAC = 0, BETAO = 5, RFE093	С	1545-1552
198	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 4, IORB = 8, BETAC = 0, BETAO = 5, RFE094	С	1553-1560
199	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 4, IORB = 4, BETAC = 0, BETAO = 0, RFE095	С	1561-1568
200	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 4, IORB = 6, BETAC = 0, BETAO = 0, RFE096	С	1569-1576
201	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 4 IORB = 8, BETAC = 0, BETAO = 0, RFE097	С	1577-1584
202	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 4, IORB = 4, BETAC = 0, BETAO = 0, RFE098	С	1585-1592

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FIGURE NUMBER	TITLE	COEFFICIENT SCHEDULE	PAGES
203	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 4, IORB = 6, BETAC = 0, BETAO = 0, RFE099	С	1593-160)
204	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 4, IROB = 8, BETAC = 0, BETAO = 0, RFE100	С	1601-1508
205	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 4, IORB = 4, BETAC = -5, BETAO = -5, RFE101	С	1609-1616
206	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 4. IORB = 6, BETAC = -5, BETAO = -5, RFE102	С	1617-1624
207	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 4, IORB = 8, BETAC = -5, BETAO = -5, RFE103	С	1625-1632
208	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 5.5, IORB = 6, BETAC = 0, BETAO = 0, RFE104	С	1633-1640
209	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 0, IORB = 4, BETAC = -5, BETAO = -5, RFE105	С	1641-1648
210	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 0, IORB = 6, BETAC = -5, BETAO = -5, RFE106	С	1649-1656
211	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 0, IORB = 8, BETAC = -5, BETAO = -5, RFE107	С	1657-1664
212	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 6, BATAC = 0, BETAO = 0, RFE108	С	1665-1672
213	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2 IORB = 4, BETAC = 0, BETAO = 0, RFE109	С	1673-1680

FIGURE NUMBER	TITLE	COEFFICIENT SCHEDULE	PAGES
214	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 6, BETAC = 0, BETAO = 0, RFE110	С	1681-1688
215	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 8, BETAC = 0, BETAO = 0, RFE111	С	1689-1696
216	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 6, BETAC = 0, BETAO = 0, RFE112	D	1697-1704
217	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 6, BETAC = 0, BETAO = 0, REF113	D	1705-1712
218	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 6, BETAC = 0, BETAO = 0, RFE114	D	1713-1720
219	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 6, BETAC = 0, BETAO = 0, RFE115	Е	1721-1728
220	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 6, BETAC = 0, BETAO = 0, RFE116	Е	1729-1736
221	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 6, BETAC = 0, BETAO = 0. KFE117	E	1737-174
222	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 6, BETAC = 0, BETAO = 0, RFE118	С	1745-175
223	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 6, BETAC = 0, BETAO = 0, RFE119	C	1753-176
224	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 2, IORB = 6, BETAC = -5, BETAO = -5, RFE120	С	1761-176

FIGURE NUMBER	TITLE	COEFFICIENT SCHEDULE	PAGES
225	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 4, IORB = 4, BETAC = 0, BETAO = 0, RFE121	С	1769-1776
226	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 4, IORB = 6, BETAC = 0, BETAO = 0, RFE122	С	1777-1784
227	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 4, IORB = 8, BETAC = 0, BETAO = 0, RFE123	С	1785-1792
228	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 0, IORB = 4, BETAC = 0, BETAO = 0, RFE124	С	1793-1800
229	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 0, IORB = 6, BETAC = 0, BETAO = 0, RFE125	С	1801-1808
230	CARRIER DATA, ORB. PROXIMITY, ALPHAC = 0, IORB = 8, BETAC = 0, BETAO = 0, RFE126	С	1809-1816
231	CAR. DATA, ORB. PROXIM., ALPHAC = 2, IORB = 6, BETAC = 0, BETAO = 0, DELPHI = 7.5, RFE127	С	1817-1824
232	CAR. DATA. ORB. PROXIM., ALPHAC = 2, IOAB = 6, BETAC = 0, BETAO = 0, DELPHI = 7.5, RFE128	С	1825-1832
233	CAR. DATA, ORB. PROXIM., ALPHAC = 2, IORB = 6, BETAC = 0, BETAO = 5, DELPHI = 7.5, RFE129	С	1833-1840
234	CAR. DATA, ORB. PROXIM., ALPHAC = 2, IORB = 6, BETAC = -5, BETAO = 0, DELPHI = 7.5, RFE130	c	1841-1848

FIGURE	TITLE	COEFFICIENT SCHEDULE	CONDITIONS VARYING	PAGES
NUMBER		A	BETAO, BETAC	1849-1863
235	LAT-DIRECT AERO VS DELZ, ALPHA747 = 0.0	A	BETAO, BETAC	1864-1878
236	LAT-DIRECT AERO VS DELZ, ALPHA747 = 2.0		BETAO, BETAC	1879-1893
237	LAT-DIRECT AERO VS DELZ, ALPHA747 = 4.0	A		1894-1908
238	LAT-DIRECT AERO VS DELZ, ALPHA747 = 0.0, DELBETA = 5.0	A	BETAO, BETAC	1074 1700
239	LAT-DIRECT AERO VS DELZ. ALPHA747 = 2.0, DELBETA = 5.0	A	BETAO, BETAC	1909-1923
240	LAT-DIRECT AERO VS DELZ. ALPHA747 = 4.0, DELBETA = 5.0	A	BETAO, BETAC	1924-1938

COEFFICIENT SCHEDULE:

- (A) CY, CYN, CBL, CPS1, CPS2, CYB, CYNB, CBLB, DCPSB versus DZ
- (B) CN, CLM, CA, CY, CYN, CBL, CL, CD versus ALPHAC
- (C) CN, CLM, CA, CY, CYN, CBL, CL, CD versus DZ
- (D) CN, CLM, CA, CY, CYN, CBL, CL, CD versus DX

- (E) CN, CLM, CA, CY, CYN, CBL, CL, CD versus DY
- (F) CN, CLM, CA, CY, CYN, CBL, CL, CD versus ALPHAO
- (G) CN, CLM, CA, CY, CYN, CBL, CL, CD versus INCID

NOMENCLATURE General

SYMBOL	PLOT SYMBOL	DEFINITION
а		speed of sound; m/sec, ft/sec
c_p	CP	pressure coefficient; (p1 - pm)/q
М	масн	Mach number; V/a
p		pressure; N/m ² , psf
q	Q(NSM) Q(PSF)	dynamic pressure; 1/2pV ² , N/m ² , psf
RN/L	RN/L	unit Reynolds number; per m, per ft
V		velocity; m/sec, ft/sec
α	ALPHA	angle of attack, degrees
β	BETA	angle of sideslip, degrees
ψ	PSI	angle of yaw, degrees
φ	PHI	angle of roll, degrees
ρ		mess density; kg/m3, slugs/ft3
		Reference & C.G. Definitions
Ab .		base area; m ² , ft ²
b	BREF	wing span or reference span; m, ft
c.g.		center of gravity
ℓ _{REF}	LREF	reference length or wing mean serodynamic chord; m, ft
S	SREF	wing area or reference area; m2, ft2
	MRP	moment reference point
	XMRP	moment reference point on X sxis
	YMRP	moment reference point on Y axis
	ZMRP	moment reference point on Z axis
SUBSCRI	PTS	
b		base
1		local static conditions
S		total conditions
t oo		free stream
w		wing

NOMENCLATURE (Continued)

Body-Axis System

SYMBOL	PLOT SYMBOL	DEFINITION
c^{M}	CN	normal-force coefficient; normal force qS
c _A	CA	axial-force coefficient; axial force
c _Y	CY	side-force coefficient; side force
c _{Ab}	CAB	base-force coefficient; base force
		$-A_b(p_b - p_{\infty})/qS$
CAf	CAF	forebody axial force coefficient, CA - CAb
c _m	CIM	pitching-moment coefficient; pitching moment qS&REF
Cn	CYN	yawing-moment coefficient; yawing moment qSb
c ₂	CBL	rolling-moment coefficient; rolling moment
		Stability-Axis System .
$c_{\mathbf{L}}$	CL	lift coefficient; lift qS
c_{D}	CD	drag coefficient; drag
C _{Db}	CDB	base-drag coefficient; base drag
$c_{D_{\mathbf{f}}}$	CDF	forebody drag coefficient; CD - CDb
$c_{\mathbf{Y}}$	CY	side-force coefficient; side force qS
$c_{\rm m}$	CIM	pitching-moment coefficient; pitching moment qS \(\begin{align*} \ q \text{S} \end{align*} \)
c _n	CLN	yawing-moment coefficient; yawing moment
c e	CSL	rolling-moment coefficient; rolling moment
L/D	L/D	lift-to-drag ratio; CL/CD
L/Df	L/DF	lift to forebody drag ratio; CL/CDf

NOMENCLATURE (Continued)

SYMBOL	PLOT SYMBOL	DEFINITION
BSTA		Longitudinal carrier station, in.
BWL		Vertical carrier station, in.
BL		Lateral carrier station, in.
$\delta_{\mathbf{a}}$	AILRON	Orbiter aileron deflection angle, $\delta_a = \frac{\delta_{eL} - \delta_{eR}}{2}, \text{ degrees}$
δBF	BDFLAP	Orbiter body flap surface deflection angle, positive deflection trailing edge down, degrees
δe	ELEVON	Orbiter elevon surface deflection angle, positive deflection trailing edge down, degrees
$\delta_{\mathbf{r}}$	RUDDER	747 rudder surface deflection angle, positive deflection trailing edge to the left, degrees
$\delta_{\mathbf{S}}$	STAB	747 stabilizer surface deflection angle, positive deflection trailing edge down, degrees
Сув	СҮВ	Side force coefficient due to beta
$c_{n_{\beta}}$	CYNB	Yawing moment coefficient due to beta
ClB	CBLB	Rolling moment coefficient due to beta
$\Delta c_{P_{S_{\beta}}}$	DCPSB	Differential right hand and left hand strut pressure coefficient due to beta
		ORBITER
CPB1	CPB1	Orbiter (tail cone off) base pressure coefficient, 1
$c_{P_{B2}}$	CPB2	Orbiter (tail cone off) base pressure coefficient, 2
$c_{P_{B3}}$	CPB3	Orbiter (tail cone off) base pressure coefficient, 3

NOMENCLATURE (Concluded)

SYMBOL	PLOT SYMBOL	DEFINITION
$c_{P_{CO}}$	CPCO	Orbiter balance cavity pressure coefficient
$c_{P_{S1}}$	CPS1	Orbiter strut L. H. side pressure coefficient
$c_{P_{\mathbf{S}2}}$	CPS2	Orbiter strut R. H. side pressure coefficient
c_{PCC}	CPCC	747 cavity pressure coefficient
c_{PSB1}	CPSB1	747 upper forward sting cavity pressure coefficient
c_{PSB2}	CPSB2	747 upper center sting cavity pressure coefficient
$c_{P_{SB3}}$	CPSB3	747 upper aft sting cavity exit pressure coefficient
		SEPARATION PARAMETERS
Δχ	DELX	Orbiter longitudinal displacement from mated position, positive aft, feet
Δy	DELY	Orbiter lateral displacement from mated position, positive right, feet
Δz	DELZ	Orbiter vertical displacement from mated position, positive up, feet
Δφ	DPHI DELPHI	Incremental roll angle, Orbiter FRP, degrees
io	IORB	Orbiter incidence angle, orbiter FRL to 747 FRL $(i_0 = \alpha_0 - \alpha_c)$, degrees
	INCID	Orbiter incidence angle (accounts for tunnel flow angularity variation from tunnel ϵ to tunnel wall) $i_0 = \alpha_0 - \alpha_c - \Delta Z(0059)$, degrees
αο	ALPHAO	Orbiter angle of attack (tunnel flow angularity from tunnel & to tunnel wall not applied), degrees
αc	ALPHAC	Carrier FRL angle of attack, degrees
Δβ	DELBETA	Incremental sideslip angle, orbiter to 747 FRL, degrees

REMARKS

The model component surface deflection angles called out in the run summary are nominal values. The actual angles tested are outlined below.

	Nominal	Actual
Orbiter Elevon:	0° +5° +10°	0° +5.0° +9.8°
Orbiter Aileron: $(^{\delta}_{e} = 5, ^{\delta}_{a} = -5)$ 747 Stabilizer:	0°/10° -1° +3° +5° +10°	0°/+9.8° -0.75° 3.27° 5.32° +10.7°
747 Rudder:	+100	+10.70

During the early separation Δz sweep runs, it was noted that for Δz in the 0 to 15 foot range, the coefficient polars had different characteristics for Δz decreasing than for Δz increasing. Subsequent pitch/pause data runs demonstrated that there was a proximity hysterisis effect. All runs thereafter were made with pitch/pause points in close proximity and constant sweep beyond 10 feet.

CONFIGURATIONS INVESTIGATED

The orbiter model, 48-0, was an 0.0125-scale representation of the Space Shuttle Orbiter VC70-000002 lines, illustrated in figure 2a. The Orbiter model was tested both with and without a tail cone fairing which covered the MPS nozzles and the OMS pod base as shown in figure 2b. Orbiter alone runs were made with a base sting mount, the sting replacing the upper MPS nozzle, figure 2h. The following orbiter configurations were tested:

02 = B64 C14 F14 E44 M18 N94 N92 W116

 $O_{14} = B_{64} C_{14} F_{14} E_{144} M_{18} N_{105} N_{92} R_{18} V_{23} W_{116}$ (upper MPS nozzle off)

06 = B64 C14 F14 E44 M18 W116 TC4

where:

Component	Description
B64	Orbiter fuselage per Rockwell lines VC70-000002, Model drawing SS-A01377
C ₁₄	Orbiter canopy per Rockwell lines VC70-000002, Model drawing SS-A01377
Е44	Orbiter full span, unswept hingeline, 6-inch gapped elevons per Rockwell lines VC70-000002, Model drawing SS-A01377
F14	Orbiter body flap per Rockwell lines VC70-000002, Model drawing SS-A01377
M ₁₈	Orbiter OMS/RCS pods per Rockwell lines VC70-000002, Model drawing SS-A01377
N ₉₂	Orbiter OMS engine nozzles per Rockwell lines VC70-000002, Model drawing SS-A01377
N ₉₄	Orbiter main engine nozzles per Rockwell lines VC70-00002, Model drawing SS-A01377
N ₁₀₅	Same as N94 with upper nozzle removed

CONFIGURATIONS INVESTIGATED - (Continued)

Component	Description
R ₁₈	Orbiter rudder per Rockwell lines VC70-000002, Model drawing SS-A01377
v ₂₃	Orbiter vertical tail per Rockwell lines VC70-000002, Model drawing SS-A01377
W1.16	Orbiter double delta wing per Rockwell lines VC70-000002, Model drawing SS-A01377
TC ₄	Orbiter tail cone fairing which covers the MPS nozzles and the OMS nozzles and base

Orbiter elevon, aileron and body flap deflection angles were varied. Configuration O₄ was the sting mounted orbiter configuration, and O₂ and O₅ were blade mounted configurations.

Orbiter-to-carrier attach structure was simulated. These included faired and unfaired strut members as identified below and illustrated in figures 2f and 2g.

$$AT_y = AT_{112} + AT_{113}$$

 $AT_x = AT_{96} + AT_{99}$

where:

Component	Description		
AT ₁₁₂	Fwd. attach structure, short fairing, io = 40		
AT113	Aft attach structure, unfaired draglink, other members faired		
AT96	Fwd attach structure, faired, io = 40		
AT99	Aft attach structure, faired		

CONFIGURATIONS INVESTIGATED - (Concluded)

The carrier model, AX1318I-1, was an 0.0125-scale representation of the Boeing 747-100 aircraft with surface contours built to represent the 747 under loads it would experience with a 600,000 pound gross weight flying at Mach 0.86 at an altitude of 5,000 feet. The CAM (Carrier Aircraft Modification) kit tested on the model included 200 square foot tip fins on the horizontal tail panels and simulated orbiter-to-carrier attach structure. In-flight speed brakes were deployed for most runs in the configuration shown in figure 2e. Stabilizer and rudder deflections were varied during the test. The carrier was tested both isolated and in proximity to the orbiter. Configurations investigated were:

 $747/1 = B_{27.8} W_{44.1} V_{9.1} H_{15.6} M_{25} M_{26} N_{57} N_{58} S_{1-12} T_{14} AT()$ $747/4 = Same as 747/1 except no H_{15.6}$

where:

Component	Description
B _{27.8}	Fuselage
W44.1	Wing
V9.1	Vertical Tail
H ₁₅	Horizontal tail, basic
H15.6	Horizontal tail, with 200 ft. 2 tip fins
M25	Inboard nacelle struts
M26	Outboard nacelle struts
N57	Inboard nacelles
N58	Outboard nacelles
S ₁₋₁₂	Spoiler Panels
T14	Flap track fairings

INSTRUMENTATION

Force instrumentation consisted of a six-component internal force balance mounted in each model. The orbiter balance measured orbiter forces and the carrier balance measured carrier data.

Pressure instrumentation for the orbiter consisted of 3 base pressure orifices (tailcone off only) and 1 balance cavity orifice. Pressure instrumentation for the carrier consisted of 1 balance cavity orifice and 3 sting/boattail cavity pressure orifices as shown below. Also, see figure 2k. All pressures were measured by individual pressure transducers.

	Pressure
Orbiter pressures:	PCO
	PB1
	PB ₂
	РВ3
Carrier pressures:	PCC
	PSB1
	PSB2
	PSB3
Strut pressures:	PS1
	PS2
Tailcone pressure:	PTC

TEST FACILITY DESCRIPTION

The Vought Aeronautics Company High Speed Wind Tunnel is a blowdownto-atmosphere, transonic-supersonic adjustable Mach number facility.

Six tanks with a total of 28,000 cubic feet air storage capacity receive the reheated air until a maximum storage pressure of 600 psia is reached. The compressor discharge is then vented to atmosphere until the tank pressure is reduced below 400 psia. An alumina pebble bed in each tank absorbs heat during pump up and dissipates heat during air discharge to maintain a near constant supply temperature.

The time required to recharge the air storage tanks following a run varies from 15 to 45 minutes depending upon the final tank pressure. A nominal tank pressure increase rate is 9 psi per minute.

Mach number control at the supersonic test section velocities is accomplished with an adjustable contour nozzle. Two flexible stainless steel plates, 3/4-inch thick, 48 inches wide, and 453 inches long, are contoured to produce a uniform test section flow using 28 nozzle jacks on each plate spaced at 10- to 18-inch intervals. During nozzle changes the plates are hydraulically extended to permit positioning of the threaded nozzle jacks. After the nozzle jacks are properly set, the plates are retracted against the nozzle jack stops. Microswitches on the stops indicate plate contact. Strain indicators at each jack position protect the nozzle plate from excessive stresses.

During each run the hydraulic cylinders are charged with high pressure to hold each plate support rigidly against the nozzle jack stops.

TEST FACILITY DESCRIPTION (Concluded)

For transonic operation the supersonic diffuser is removed and the transonic test section and ejector section are set in place. The model cart is relocated downstream approximately 11 feet into the transonic test section. Test section window locations relative to the model cart are the same for either section. Conversion time is nominally 2 hours.

The transonic test section has normal hole perforated walls with 22.5% porosity. Test section size is nominal 4 x 4 feet with each side wall converged 25 minutes. Subsonic Mach number control is accomplished with hydraulic servo-actuated choking flaps downstream of the test section. A control system maintains the preset ratio of static to total pressure during each run by causing small changes in choking area. Above Mach number 0.9, approximately, the choking flaps are fully open and Mach control is switched to a set of plenum chamber bleed control flaps. These hydraulically-actuated, servo-controlled "Mach flaps" remove test section air through the porous walls by ejection pumping of the plenum chamber. A maximum Mach number of 1.15 can be attained with a sonic nozzle. To obtain Mach numbers greater than 1.5, it is necessary to contour the nozzle plates in addition to utilizing plenum pumping. A maximum Mach number of 1.8 is possible in the transonic test section, although the supersonic test section is recommended for Mach numbers of 1.4 and greater.

DATA REDUCTION

Force and moment data were reduced in both body and stability axes using standard data reduction procedures. Coefficient data for each vehicle were computed based on their respective reference dimensions. Separation distances Δx , Δy , and Δz were computed in the carrier body axis system and represent the movement of the orbiter from the base (mated) position.

2
nter,

No base or cavity pressure corrections were applied to the data.

Wind tunnel data were interpolated versus angle of attack, angle of sideslip, orbiter incidence angle and separation distances Δx , Δy and Δz . Both basic and interpolated data are presented in this report.

REFERENCES

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VC70-000002, "Design Geometry - Orbiter," June 10, 1974

SS-A01377, "Orbiter Assembly - #48-0, 0.0125-Scale SSV, Ferry/Separation,"
August 9, 1974

SS-A01378, "Model Installation - 0.0125-Scale SSV Orbiter Ferry/Separation (LTV)"

SS-A01452, "Tail Cone Assy - 0.0125-Scale SSV Orbiter, #48-0"

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W-1133SA "Sting Assy - Orbiter Ferry Separation, #48-0," January 13, 1975
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747-MD-461, "General Arrangement - 747 Space Shuttle Orbiter Carrier

Aircraft (Piggyback Configuration)," July 15, 1974

747-MD-654, "Forward Support Structure Instl. -747 CAM"

747-MD-658, "Support Structure Instl. -Aft"

AX 1318I-1, "747 Model Drawings 0.0125-Scale."

65C13609, "Model Assy AX1318I-1"

65-89588, "Body Lines AX1318I-1"

NACH NUMBER REYNOLDS NUMBER (per unit length) DYNAMIC PRESSURE PSF STAGNATION TEMP PSF (degrees Fahren)	Test
MACH NUMBER (per unit length) PSF (degrees Fahrent	
0.5	
0.5	
0.6	
0.7 5.1 x 106/ft 720 96	
BALANCE UTILIZED: Carrier: LTV 1.5-inch VB-21 CAPACITY: Orbiter Carrier Accuracy NF 800 lb. 1000 lb. 0.2% SF 400 lb. 800 lb. 0.2% AF 100 lb. 200 lb. 0.2% PM 1000 inlb. 0.2%	
BALANCE UTILIZED: Carrier: LTV 1.5-inch VB-21 CAPACITY: Orbiter Carrier Accuracy NF 800 lb. 1000 lb. 0.2% SF 400 lb. 800 lb. 0.2% AF 100 lb. 200 lb. 0.2% PM 1000 inlb. 0.2%	
BALANCE UTILIZED: Carrier: LTV 1.5-inch VB-21 CAPACITY: Orbiter Carrier Accuracy NF 800 lb. 1000 lb. 0.2% SF 400 lb. 800 lb. 0.2% AF 100 lb. 200 lb. 0.2% PM 1000 inlb. 0.2%	
BALANCE UTILIZED: Carrier: LTV 1.5-inch VB-21 CAPACITY: Orbiter Carrier Accuracy NF 800 lb. 1000 lb. 0.2% SF 400 lb. 800 lb. 0.2% AF 100 lb. 200 lb. 0.2% PM 1000 inlb. 0.2%	
BALANCE UTILIZED: Carrier: LTV 1.5-inch VB-21 CAPACITY: Orbiter Carrier Accuracy NF 800 lb. 1000 lb. 0.2% SF 400 lb. 800 lb. 0.2% AF 100 lb. 200 lb. 0.2% PM 1000 inlb. 0.2%	
BALANCE UTILIZED: Carrier: LTV 1.5-inch VB-21 CAPACITY: Orbiter Carrier Accuracy NF 800 lb. 1000 lb. 0.2% SF 400 lb. 800 lb. 0.2% AF 100 lb. 200 lb. 0.2% PM 1000 inlb. 0.2%	
NF 800 lb. 1000 lb. 0.2% SF 400 lb. 800 lb. 0.2% AF 100 lb. 200 lb. 0.2% PM 1000 inlb. 0.2%	
SF 400 lb. 800 lb. 0.2% AF 100 lb. 200 lb. 0.2% PM 1000 inlb. 0.2%	
AF 100 lb. 200 lb. 0.2% PM 1000 inlb. 0.2%	
PM 1000 in1b. 0.2%	
250 in alb in.alb. 0.2%	-
250 inlb. hoo inlb. 0.2%	-
[V(V)]	-
YM1200 inlb0.2%	
COMMENTS:	

TABLE II

		-	CAR	RIER		T			ORBIT	ER					MACH	NUMBERS		
DATA SET	CONFIGURATION	- Lawrence	-		δ_r	δ_{e}	δ ₈ F	δa	Δx	ΔΥ	ΔZ	a _o	βo	Φο		0.6		
AFEOO!	04*	T				0	0	0				2	0	0		1		
02						0	16.3	0				2	0	0		2	-	
03		L				5	0	0				12	0	0		4.1		
04						5	0	0				2	-5	0		4.2		
05	0251					5	0	0				2	0	0		7.1		
06						5	0	0			-	2	-5	0		7.2	_	TEST
07						5	0	0			M	8	0	0		8		
08						0	0	0				2	0	0		9		DCZ
09						0	16.3	0				2	0	0		10		NUMBERS
10						0	-11.7	0				2	0	0		11		ERS
- 11			T			0	5	0				12	0	0		12		
12	0651		T			0	-11.7	0				2	0	0		14		-
13			T		T	0	-11.7	0				1/2	-5	0		15		
14		T	1			5	-11.7	0				2	0	0		16.1		
15						5	-11.7	0				/2	-5	0		16.2		-
1		+	+	+	-	\vdash	-	_	-	-	-	+	+	+-				
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بببي	^	= 0					OEFF	CIE	NTS	111	1111		411	111	IDVAR(1)	IDVA	R(2)	ND

SEE PAGE 46 FOR COEFFICIENT SCHEDULE

* STINGMOVITED

TABLE II (Continued)

TEST: CAZG			-					ORBIT		SUMM				MA	CHNUMBERS	
DATA SET CONFIG	ATION SHOW	CAR	Sa	δr	δ_{e}	ÓBF	200	Δx	ΔΥ	Δz	a ₀	βο	φo		0.6	_
RFEOIL 747/1 A	ry o	0	5	0								-	-	-	17	-
17	2		5	0								-	-	-	25.1	\dashv
18	4	+	5	0								-	-	-	24	-
19		50	5	0								_	1-	-	29	\dashv
	0	T	-1	0		T						_	_	-	18	\dashv
20		0	-1	0									-	1	27	-
21	4	1	-1	0	T								-	1	23	\dashv
22	12	1	5	0	T					1.			1_	1	28	
23	Z	+	5	0	T	1				1			_		25.2	-
24		0	_	0	T	1		A							25.3	_
25		-	1	0	t	+-		1							19	
26 747/		10	-	0	+	+-	1	1					T		21	
27		10	1_	0	1	+	\vdash	1							20	
28		0	3	+	+	+	1	+	1						22	
29 747/4		0	+=	10	+	+	+	+	+	+	1					
		+	-	+	+	+-	+	+	+	1	1					
		+	+	+	+	+	+	+-	+	1	1					
		+	+	+	+	+	+	+	+	1	+	1				
			_		_		_		-		49	5		61	67	7
1	19		25	_	31		37		43	_	-	111				لب
Mandana	À ₹ = 0	•••	-		-	COEF	FICI	ENTS						IDVA	R(1) IDVA	R(2)

EST: C	700								ORBITE	-	SUMM	-				MACHN		
DATA SET	CONFIGURATION		-	RIER	δr	$\delta_{\rm e}$	δ _B F	-	Δx	ΔΥ	Δz	io	βο	Φο	0.3	D.5	0.6	0.7
VAFE030	747/1 ATY 0251	0	0	5	0	5	-11.7	0	0	0	3	4	0	0			30.1	
31	11.1/										32	6				-	30.3	
32	44					_				-	3	6	-	-			34.2	
33						_	-			-	33		-	-	-		31	
34						_		_		-	13	8	5	0	-		33.1	
35		0	0	5	0	5	-117	0	0	0	3	6	2	-			33.2	
36		-	-	_	-	-	-		-	-	3	8					34.1	
37		-	-	_	-	-	110	-	0	0	/3	4	0	10			35.1	
38		0	0	-1	0	5	-11.7	0	0	10	3	6		1		1	35.2	
39		-	-	-	-	-	-	-	-	-	3	8		1			36	
40		+	-	-	-	5	lua	0	0	0	/34	4	10	10			31.1	
41		12	0	-1	0	12	-11.7	10	10	10	/33	6					37.2	
42		+	+	-	+	1	1	-			34	8					38.1	-
43	NO LAIN AVAIL	AR	40	1	-	-	+	-	-		3						38,2	
44		HE	4.5		-	5	-11.7	0	10	10	13	14	0	10			39.1	-
45		2	10	13	0	13	111.7	-	1	-	1/3	6			44	43	-	42
46		+	+	+	+	+	+	1	1	1	3	8					40.1	
47			_	_				37		43		19	55		61		6	
	7 13 19 R B A AZ RULES AZ RULES AZ	ne	ce.	12 m	17)	NO	COEFF	CICLE	INTS		3 ³	17	INC	1-1.99	ora.	with	i pa	AR(2)

40

TEST:	CAZ6	-	-	-	-			-	COLL	-		-		T	MACHN	UMBERS	
DATA SET	CONFIGURATION	MODEL OF THE PERSON	Distance of	RIER	lo,	ð _e	δgç	å,	Δx	ΔΥ	Δz	ia	βο	Φο		0.6	I
	made AT 1 do S.	-	0	5	0	5	0	0	0	0	/3	4	5	0		41.1	-
Charles and the same of the sa	747/1ATY 0251	-	_	2							3	6				41.2	1
49											3	8				40.2	1
50	747/1 ATX 0251	2	0	-	0	5	0	0	0	0	3	4	0	0		45.1	4
51	141/1 ATX \$251	-	-	-	-	~					3	6				45.2	1
52	747/1 ATY 0251	0	0	5	0	5	0	0	0	4	0	6	0	0		46.1	1
53	747/1 A14 0231	-	0	3	10	2				-	15					46.2	1
54					1				1		60					46.3	
55		7	0	-	0	5	0	0	0	4	0	6	5	0		47.1	1
56		6	10	0	10	13-	-	-	1	1	15					47.2	1
57		-	-	-	-	1	-	-	+	-	60					47.3	1
58		-	-	5	10	5	0	10	10	4	1	6	10	10		48.1	1
59		12	0	5	0	15	10	C,	10	1	15	1				48.2	1
60		+	-	-	+-	-	-	-	+	-	60	1				48.3	
61		+	+	-	10	1	1	10	1/5	0	0	6	0	10		49.1	
62		12	10	5	0	5	0	10	1/3/	10	15	1	1	1		49.2	
63		+	+	-	-	+	+-	-	+	+		1	1	1		49.3	
64		+	1-	-	-	+	-	+	+	1	60	1	1	1			1
		L	L	_		_	_	1		_			55		61	6,	75
1	7 13 19		_	25		31		37		43		19	1 .		1	1,,,,,	
				11		11	COEFF	TCIE	NTS	1	1	111		. \	DVAR(1)	IDVAR(2)	N

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TABLE II (Continued)

TEST:	CAZ6	-			35	- KO			ORBITI		SUMM				MAC	HNUMBERS	
DATA SET	CONFIGURATION	a		RIER	ð,	δ _e	δ ₈ F		Δx	ΔΥ	Δz	io	Bo	Φο		0.6	口
R/AFF065	747/1 ATY Ø2 SI	2	0	5	0	5	0	0	5	0	0	6	5	0		50.1	-
66											15					50.2	-1
67										,	60					50.3	-1
68		12	0	5	0	0	16.3	0	0	0	3	4	0	0		51.1	-
69												6	-			51.2	\dashv
70												8	-			52	\dashv
71		2	0	5	0	0	5	0	0	0	3	4	C	0		53.1	\dashv
72												6	-			52.2	
73		L									-	8		-		54	\dashv
74		12	0	5	0	0	0	0	0	0	3	4	0	0		55.1	\dashv
75											-	6	-	-		55,7	-
76											-	8	-	-	-	56	\dashv
77		12	0	5	0	10	0	0	0	0	3	6	0	0		57	-
78		2	0	5	0	5	0	-5	0	0	13	6	0	0		58	-
79		Z	0	5	10	5	0	0	0	0	13	6	0	0	-	59	-
80		Z	-5	5	0	5	0	0	0	0	3	14	-5	0		60.1	-
81		L									-	6	-	-		60.2	\dashv
82												18				[6]	
	7 13 19			25		31		37		43	4	-	55		61	- 1	7

42

	THE REAL PROPERTY OF THE PERSON NAMED IN	-	AMMER			TAB	LE I	I (Co	ntinu	ied)		-					
TEST:	CAZLO			DAT	A SE	T/RU	N NUI	MBER	COLL	ATIO	N SUMN	IARY		DATE	Po	ST . TES	7
DATA SET		T	CAR	RIER					ORBIT	ER			-	L	. A	AACH NUMBERS	
IDENTIFIER	CONFIGURATION	a	β	Se.	δ,	$\delta_{\rm e}$	8 BF	Óa.	Δx	ΔY	ΔZ	io	Bo	Φ0		0.6	
R/AFE083	747/1 ATY \$251	12	-5	5	0	5	0	0	15	0	0	6	0	0		62.1	
84											15					62.2	
85											60					62.3	
86		12	5	5	0	5	0	0	0	14	0	6	0	0		63.1	
87							1				15					63.2	
88											60					63.3	
89		4	0	5	0	5	0	0	0	0	3	4	0	0		64.1	
90												6	100			64.2	
91									100		100	8				65	
92		14	0	5	0	5	0	0	0	0	3	4	5	0		66.1	
93		1										6				66.2	
94							1 3				1	8				67	
95		14	0	-1	0	5	0	0	0	0	3	4	0	0		68.1	
96		1	-		1	1	1 8					6				68.2	
		1				1						8				69	
97		4	0	5	10	0	0	0	0	0	3	4	0	0		70.1	
		1	1	-	1	1		-			1	6				70.2	
99		T	1									8				71	
		_	_	25	-	31	1	37		43	49		55		61	6.	7:
a OF						11	DEFFI	1							IDVA	R(1) IDVAR	(2)

TEST: (-		RIER					ORBITE	-	SUMM				MAC	HNUMBERS	
DATA SET	CONFIGURATION	_	_	Se	δr	$\delta_{\rm e}$	8 BF	-	Δx	ΔΥ	Δz	io	βo	φο		0.6	1
MACEINI	747/1 ATY \$251	-	COLUMN .	Name and Address of the Owner, where	0	5	0	0	0	0	3	4	-5	0		72.1	-
102	THU THE											6				72.2	-
103												8				73	-
104		5.5	0	5	0	5	0	0	0	0	3	6	0	0		74	-
105		0	-5	5	0	5	0	0	0	0	3	4	-5	0		75.1	1
106												6				75.2	\dashv
107												8				76	4
108	747/1 ATY 0651	2	0	5	0	5	-11.7	0	0	0	3	6	0	0		77	_
109	14111 1317 44 -1		0	5	0	0	-11.7	0	0	0	3	4	0	0		78.1	
110		1										6				78.2	_
111		1										8				179	
112		12	0	5	0	0	-11.7	0	15	0	0	6	0	0		81.1	_
113		1									15					81.2	
114		T									60		la .			81.3	
		12	0	5	0	0	-11.7	0	0	14	0	6	0	0		82.1	
115		+	-	-	1						15					82.2	_
		1	1			1					60					82.3	
117		+	1														
	7 13 19	_	_	25		31	-	37		43	49		55		61	67	7
						11	COEFF	ICIE	NTS	1			ملد		IDVAR	(1) IDVAR(2	2)

NASA-MSFC-MAF

TABLE II (Continued)

TEST: C	ACO	1	-		A SE	RUI	N NUN			-	4 SUMM	ART			MACHA	NUMBERS	
DATA SET	CONFIGURATION	a	CAR	RIER	18,	δ _e	δ _{BF}	å,	ORBIT ∆X	ΔY	Δz	io	Bo	00	MACHI	0.6	T
-	mand AT . A.S.	Z	0	-1	0	0	-11.7	0		0	/3	6	0	0		83	7
R/AFE118	747/1 ATY 0651	Z		5	10	0	-11.7	0	0	0	3	6	0	0		84	
119		17	0 5	5	1	0	-11.7	0	0	0	3	6	-5	0		85	
120		1		7 5	0	0	-11.7	-	-	0	3	4	0	0		86.1	1
121		4	0	0	0	-	-11.1	0	0	0	122		-			86.2	1
122		-	-	-	-	-	-		-	-	-	8	-			87	7
123		+	-	_	-	-			-		3	4				88.1	1
124		0	0	5	0	0	-11.7	0	0	0	(3)	-	0	0		88.2	
125		-	-		-	-	-			-	-	6	-	-		89	
126		-	-	-	-	-	-	-	-	-	1	8		0.00		90	
127		12	0	5	0	0	-11.7	0	0	0	3	6	0	7.5	-	+	-
128	747/1 ATY \$251	2	0	5	0	5	0	0	0	0	3	6	0	7.5		91	-
129		12	0	5	0	5	0	0	0	0	3	6	5	7.5		92	\dashv
130		12	0	5	0	5	0	0	0	0	3	6	0	7.5		93	\dashv
AFE 131	ØZS1	L	1_			5	0	0		_		2	5	0		94.1	\dashv
132			1			5	0	0				2	0	0		94.2	\dashv
133						5	0	0			-	2	-5	0		94.3	\dashv
134						0	0	0				12	0	0		13*	\dashv
131		T	T														
	7 13 19			25		31		37		43	45	,	55		61	67	75
				1		11	COEFF	ICIE	NTS	1		س	-		IDVAR(1)	IDVAR(2) NI

* Vertical strut blade /orbiter gap sealed

CHARACTER	DATA SET	INDEPENDE	NT VARIABLE	
IDENTIFIER	NUMBER	FIRST	SECOND	DEPENDENT VARIABLES
AW	1-6	MACH	ALPHAO	BETAO, CN, CLM, CA, CY, CYN, CBL, CL, CD
AW	7	MACH	DZ	DY, DX, CN, CLM, CA, CY, CYN, CBL, CL, CD
AW	8-13	MACH	ALPHAO	BETAO, CN, CLM, CA, CY, CYN, CBL, CL, CD
AW	14-15	MACH	INCID	CN, CLM, CA, CY, CYN, CBL, CL, CD
AWRY	30-52	MACH	DZ	DY, DX, CN, CLM, CA, CY, CYN, CBL, CL, CD
AWRY	53-61	MACH	DY	DX, DZ, CN, CLM, CA, CY, CYN, CBL, CL, CD
AWRY	62-67	MACH	DX	DY, DZ, CN, CLM, CA, CY, CYN, CBL, CL, CD
AWRY	68-82	MACH	DZ	DY, DX, CN, CLM, CA, CY, CYN, CBL, CL, CD
AWRY	83-85	MACH	DX	DY, DZ, CN, CLM, CA, CY, CYN, CBL, CL, CD
AWRY	86-88	MACH	DY	DX, DZ, CN, CLM, CA, CY, CYN, CBL, CL, CD
AWRY	89-111	MACH	DZ	DY, DX, CN, CLM, CA, CY, CYN, CBL, CL, CD
AWRY	112-114	MACH	DX	DY, DZ, CN, CLM, CA, CY, CYN, CBL, CL, CD
AWRY	115-117	MACH	DY	DX, DZ, CN, CLM, CA, CY, CYN, CBL, CL, CD
AWRY	118-130	MACH	DZ	DY, DX, CN, CLM, CA, CY, CYN, CBL, CL, CD
AW	131-133	MACH	INCID	CN, CLM, CA, CY, CYN, CBL, CL, CD
AW	134	MACH	ALPHAO	BETAO, CN, CLM, CA, CY, CYN, CBL, CL, CD
BX	1-4	MACH	ALPHAO	CPCO, CPB1, CPB2, CPB3
BX	5-6	MACH	ALPHAO	CPCO, CPB1, CPB2, CPB3, CPS1, CPS2
BX	7	MACH	DZ	CPCO, CPB1, CPB2, CPB3, CPS1, CPS2, ALPHAO, BETAO
BX	8-11	MACH	ALPHAO	CPCO, CPB1, CPB2, CPB3, CPS1, CPS2
BX	12-13	MACH	ALPHAO	CPCO, CPS1, CPS2
BX	14-15	MACH	INCID	CPCO, CPS1, CPS2
BX	30-52	MACH	DZ	CPCO, CPB1, CPB2, CPB3, CPS1, CPS2, ALPHAO, BETAO, INCID, ALPHAC
BX	53-61	MACH	DY	CPCO, CPB1 CPB2, CPB3, CPS1, CPS2, ALPHAO, BETAO, INCID, ALPHAC
BX	62-67	MACH	DX	CPCO, CPB1, CPB2, CPB3, CPS1, CPS2, ALPHAO, BETAO INCID, ALPHAC

DATA SET 1st CHARACTER	DATA SET		NT VARIABLE	DEDENIDENT WADTADIEC
IDENTIFIER	NUMBER	FIRST	SECOND	DEPENDENT VARIABLES
BX	68-82	MACH	DZ	CPCO, CPB1, CPB2, CPB3, CPS1, CPS2, ALPHAO, BETAO, INCID, ALPHAC
BX	83-85	MACH	DX	CPCO, CPB1, CPB2, CPB3, CPS1, CPS2, ALPHAO, BETAO, INCID, ALPHAC
BX	86-88	MACH	DY	CPCO, CPB1, CPB2, CPB3, CPS1, CPS2, ALPHAO, BETAO, INCID, ALPHAC
BX	89-111	MACH	DZ	CPCO, CPB1, CPB2, CPB3, CPS1, CPS2, ALPHAO, BETAO, INCID, ALPHAC
BX	112-114	MACH	DX	CPCO, CPS1, CPS2, ALPHAO, BETAO, INCID, ALPHAC
вх	115-117	MACH	DY	CPCO, CPS1, CPS2, ALPHAO, BETAO, INCID, ALPHAC
BX	118-130	MACH	DZ	CPCO, CPS1, CPS2, ALPHAO, BETAO, INCID, ALPHAC
BX	131-133	MACH	INCID	CPCO, CPS1, CPS2
BX	134	MACH	ALPHAO	CPCO, CPB1, CPB2, CPB3, CPS1, CPS2
RY	16-23	MACH	ALPHAC	BETAC, CN, CLM, CA, CY, CYN, CBL, CL, CD
RY	24	MACH	DZ	DY, DX. CN, CLM, CA, CY, CYN, CBL, CL, CD
RY	25	MACH	DX	DY, DZ, CN, CLM, CA, CY, CYN, CBL, CL, CD
RY	26-29	MACH	ALPHAC	BETAC, CN, CLM, CA, CY, CYN, CBL, CL, CD
SZ	16-23	MACH	ALPHAC	CPCC, CPSB1, CPSB2, CPSB3, Q(PSF)
SZ	24	MACH	DZ	CPCC, CPSB1, CPSB2, CPSB3, Q(PSF), ALPHAC, BETAC
SZ	25	MACH	DX	CPCC, CPSB1, CPSB2, CPSB3, Q(PSF), ALPHAC, BETAC
SZ	26-29	MACH	ALPHAC	CPCC, CPSB1, CPSB2, CPSB3, Q(PSF)
SZ	30-52	MACH	DZ	CPCC, CPSB1, CPSB2, CPSB3, Q(PSF), ALPHAC, BETAC, ALPHAO, BETAO, INCID
SZ	53-61	MACH	DY	CPCC, CPSB1, CPSB2, CPSB3, Q(PSF), ALPHAC, BETAC, ALPHAO, BETAO, INCID
SZ	62-67	MACH	DX	CPCC, CPSB1, CPSB2, CPSB3, Q(PSF), ALPHAC, BETAC, ALPHAO, BETAO, INCID

DATA SET 1st CHARACTER IDENTIFIER	DATA SET NUMBER	INDEPENDE FIRST	NT VARIABLE SECOND	DEPENDENT VARIABLES
SZ	68-82	масн	DZ	CPCC, CPSB1, CPSB2, CPSB3, Q(PSF), ALPHAC, BETAC, ALPHAO, BETAO, INCID
sz	83-85	MACH	DX	CPCC, CPSB1, CPSB2, CPSB3, Q(PSF), ALPHAC, BETAC, ALPHAO, BETAO, INCID
SZ	86-88	MACH	DY	CPCC, CPSB1, CPSB2, CPSB3, Q(PSF), ALPHAC, BETAC, ALPHAO, BETAO, INCID
SZ	89-111	MACH	DZ	CPCC, CPSB1, CPSB2, CPSB3, Q(PSF), ALPHAC, BETAC, ALPHAO, BETAO, INCID
sz	112-114	MACH	DX	CPCC, CPSB1, CPSB2, CPSB3, Q(PSF), ALPHAC, BETAC, ALPHAO, BETAO, INCID
SZ	115-117	MACH	DY	CPCC, CPSB1, CPSB2, CPSB3, Q(PSF), ALPHAC, BETAC, ALPHAO, BETAO, INCID
sz	118-130	MACH	DZ	CPCC, CPSB1, CPSB2, CPSB3, Q(PSF), ALPHAC, BETAC, ALPHAO, BETAO, INCID

TABLE III (MODEL DIMENSIONAL DATA)

a. Orbiter Model

MODEL COMPONENT : BODY - CML - BAL		
GENERAL DESCRIPTION : The body is an		cture containing
the Crew Module and Cargo Bay. Same as		
MODEL SCALE: 0.0125		
	1377	
DRAWING NUMBER :	1311	
DIMENSIONS :	FULL SCALE	MODEL SCALE
Length ($X_0 = 235 \text{ to } 1519$), In.	1284.0	16.050
Max Width (X ₀ = 1516.8), In.	262.718	3.284
Max Depth (Xo = 1463.316), In.	248.575	3.107
Fineness Ratio	5.1365	5.1365
Area - Ft ²		
Max. Cross-Sectional	340.82	0.053
Planform		
Wetted	• = 1//	<u> </u>

Base

a. Orbiter Model

MODEL COMPONENT : CANOPY (OUTER MOLD	LINE) - Cl	
GENERAL DESCRIPTION: The canony is the which covers the Crew Module. One inch		
Configuration 140C.		
MODEL SCALE: 0.0125		
DRAWING NUMBER: VC70-000002, SS-A01	377	
DIMENSIONS :	FULL SCALE	MODEL SCALE
Length (X ₀ =435.196 - 670.0), In.	234.80	2.935
Max Width $(X_0 = 594.0)$, In.	195.58	2.445
Max Depth		
Fineness Ratio		
Area	<u>:</u>	
Max. Cross-Sectional		. ——
Planform		
Wetted		· · · · · ·
Bose		

WINDSHIELD PLANES:

.7012 X_0 - .2552 Y_0 - .6656 Z_0 - 6.1789 = 0 .5710 X_0 - .5641 Y_0 - .5965 Z_0 +32.7354 = 0 .2636 X_0 - .7564 Y_0 - .5965 Z_0 +189.4099= 0

MODEL COMPONENT : ELEVON - E		
GENERAL DESCRIPTION 6.0 In. F.S. gar	os machined int	o E ₂₆ elevon.
Flipper doors, centerbody pieces, and tip	oseals are not	simulated. (Dat
are for one side.)		
MODEL SCALE: 0.0125		
DRAWING NUMBER Not available.		
DIMENSIONS :	FULL SCALE	MODEL SCALE
Area - Ft ²	210.00	0.033
Span (equivalent), In.,	349.2	4.365
Inb'd equivalent chord , In.	118.0	1.475
Outb'd equivalent chord, In.	55.19	0.690
Ratio movable surface chord/ total surface chord		***************************************
At Inb'd equiv. chord	0.2096	0.2096
At Outb'd equiv. chord	0.4004	0.4004
Sweep Back Angles, degrees		***
Leading Edge	0.00	0.00
Trailing Edge	- 10,056	- 10.056
Hingeline -	0.00	0.00
(Product of area & c) Area Moment (Narackockockockockockockockockockockockockoc	1587.25	0.003
Mean Aerodynamic Chord, In.	90.7	1.134

MOCEL COMPONENT: RODY FLAP - F14		
GENERAL DESCRIPTION: The body flap is a second located at the aft end of the body.	ndary movable a	irfoil
MODEL SCALE: 0.0125		
DRAWING NUMBER: VC70-000002		
DIMENSIONS:	FULL-SCALE	MODEL SCALE
Area - Ft ²	135.75	0.021
Span (equivalent), In.	241.33	3.017
Inb'd equivalent chord, In.	81.0	1.013
Outb'd equivalent chord, In.	81.0	1.013
Ratio movable surface chord/ total surface chord		
At Inb'd equiv. chord	0.0	0.0
At Outb'd equiv. chord	0.0	0.0
Sweep Back Angles, degrees		
Leading Edge	0.0	0.0
Tailing Edge	0.0	0.0
Hingeline (Product of Area & c) Area Moment (Normalextochingaxkine), Ft	916.31	0.0018
Mean Aerodynamic Chord, In.	81.0	1.013

MODEL COMPONENT : OMS PODS (OML)) - M ₂ g	
GENERAL DESCRIPTION : The OMS pods an	re nacelles hous:	ing the maneuverin
engines and are located on the fuselage		
tail. Same as IML plus 1/2" TPS.		
MODEL SCALE: 0.0125		
DRAWING NUMBER :	843001	-
DIMENSIONS :	FULL SCALE	MODEL SCALE
Length $(X_0=1311 - 1511)$, In.	200.00	2.500
Max Width $(X_0 = 304)$, In.	135.75	1.697
Max Depth ($X_0 = 304$), In.	74.5	0.931
Fineness Ratio		
Area - Ft ²		
Max. Cross-Sectional	58.169	0.009
Planform		
Wetted		
Base		

MODEL COMPONENT: NOZZLES - N92		
GENERAL DESCRIPTION: The two orbiter maneuve	ring system n	ozzles are lavel-bell
shaped and are located at the aft end of the OMS	pods. These	dimensions are
external and are not to be used for plume tests.		
MODEL SCALE: 0.0125		
DRAVING NUMBER: MC62100009, VC70-000002, VL70	-008401, Aero	jet 1181900
DIMENSIONS:	FULL SCALE	MODEL SCALE
MACH NO.		
Length - In. Gimbal Point to Exit Plane Throat to Exit Plane	56.00 56.00	0.700
Diameter - In. Exit Throat Inlet	45.09	0.564
Area - ft ² Exit Throat	11.09	0.139
Gimbal Point (Station) - In.		
X Y Z	1518.0 88.0 492.0	18.975 1.100 6.150
Null Position - Deg.		
Pitch Yaw	15.82° 6.5°	15.82°

MODEL COMPONENT: MPS NO	ZZLES - N ₉₄		
GENERAL DESCRIPTION:	The main propulsion	on nozzles are Lava	al-bell shaped
and are located on the	aft planes of the or	rbiter. These dime	ensions are ex-
ternal and are not to b	e scaled for plume	tests.	
MODEL SCALE: 0.0125			
DRAWING NUMBER: VC70-	000002, VL70-008144	; RS009169, RS00910	07, 13M15000
DIMENSIONS:		FULL SCALE	MODEL SCALE
MACH NO.			
Length - In. Gimbal Point to Throat to Exit P		157.00	1.963
Diameter - In Exit Throat Inlet		97.914	1.224
Area - ft ² Exit Throat		52.290	0.008
Gimbal Point (Statio Upper Nozzle XO YO ZO	n) - In.	1445.0 0.0 443.0	18.063 0.0 5.538
Lower Nozzles X O YO ZO		1468.170 53.00 342.640	18.352 0.663 4.283
Null Position - Deg. Upper Nozzle Pitch Yaw		16.0	16.0
Lower Nozzle Pitch Yaw		3.5	10.0

MODEL COMPONENT: MPS NOZZLES - N ₁₀₅	oiter Model	
GENERAL DESCRIPTION: Same as N ₉₄ except	the upper nozzle is	removed.
MODEL SCALE: 0.0125		
DRAWING NUMBER: <u>VC70-000002</u> , VL70-0081	4; RS009169, RS0091	07, 13M15000
DIMENSIONS:	FULL SCALE	MODEL SCALE
MACH NO.		
Length - In. Gimbal Point to Exit Plane Throat to Exit Plane	157.00	1.963
Diameter - In. Exit Throat Inlet	97.914	1.224
Area - ft ² Exit Throat	52.290	800.0
Gimbal Point (Station) - In. Upper Nozzle		
X Y Z		
Lower Nozzles		
YO YO ZO	1468.170 53.00 342.640	18.352 0.663 4.283
Null Position - Deg. Upper Nozzle Pitch		
Yaw		
Lower Nozzle Pitch Yaw	10.0	10.0

a. Orbiter model

MODEL COMPONENT : RUDDER - R18	oiter model	
GENERAL DESCRIPTION The rudder is	a secondary move	able airfoil at the
trailing edge of the vertical fin that	imparts yaw for	ces. This dimension
data was calculated from the OML master	r dimensions 7-1	9-74.
MODEL SCALE: 0.0125		
DRAWING NUMBER		- 82. 11 (1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1
DIMENSIONS	FULL SCALE	MODEL SCALE
Area = Ft^2	97.148	0.015
Span (equivalent) , In.	198.614	2.483
Inb'd equivalent chord, In.	90.07	1.126
Outb'd equivalent chord, In.	50.80	0.635
Ratio movable surface chord/ total surface chord		
At Inb'd equiv. chord	0.400	0.400
At Outb'd equiv. chord	0.400	0.400
Sweep Back Angles, degrees		
Leading Edge	34.833	34.833
Trailing Edge	26.249	26.249
Hingeline 3	34.833	34.833
(MAC X AREA, Ft ³) Area Moment (Macadacacacacacacacacacacacacacacacacaca	584.99	0.0011

Mean Aerodynamic Chord, In.

72.260

0.903

MODEL COMPONENT : ORBITER TAIL	CONE - TC4	
GENERAL DESCRIPTION: Fairing mounted ferry missions configuration.	nted on orbiter fus	selage base for
MODEL SCALE: 0.0125		
DRAWING NUMBER: SS-A01452		
DIMENSIONS :	FULL SCALE	MODEL SCALE
Length	435.76	5.447
Max Width	300.80	3.76
Max Dopth Height	266.40	3.33
Fineness Ratio Area - Ft ²		
Max. Cross-Sectional	462.37	0.0722
Planform	635.803	0.0993
Wetted Base		

a. Orbiter Mo		
MODEL COMPONENT: VERTICAL - V 23 (Cuter Mold		
GENERAL DESCRIPTION: The vertical tail is of		
dorsally on the aft fuselage. These data co	prrespond to confi	guration 140C.
MODEL SCALE: 0.0125		
DRAWING NUMBER: VC70-000002, master dimens	ions.	
DIMENSIONS:	FULL SCALE	MODEL SCALE
TOTAL DATA		
Area (Theo) - Ft ²		0.065
Planform	_413.253_	_0.065
Span (Theo) - In.	315.72	3.947
Aspect Ratio	1.675	1.675
Rate of Taper	0.507	0.507
Taper Ratio	0.404	0.404
Sweep-Back Angles, Degrees.	15.000	45.000
Leading Edge	45.000	26.25
Trailing Edge	26.25	NAME AND POST OFFICE ADDRESS OF THE OWNER, T
0.25 Element Line	_41.13	41.13
Chords:	268.50	3.356
Root (Theo) WP	108.47	1.356
Tip (Theo) WP	199.81	2.498
MAC a server	1463.50	18.294
Fus. Sta. of .25 MAC	635.52	7.914
W.P. of .25 MAC	0.0	0.0
B.L. of .25 MAC		
Airfoil Section	100.22	20.00
Leading Wedge Angle - Deg.	10.00	10.00
Trailing Wedge Angle - Deg.	14.92	14.92
Leading Edge Radius	2.00	0.0250
Void Area	_ 13.17	0,0002
Blanketed Area	0,0	0.0
Blanketed Area		

MODEL COMPONENT: WING-WILLS	Orbiter Hodel	
REMERAL DESCRIPTION:		
MOTF: Identical to Will except airfoil thickn	ess. Dihedral a	ngle is along
trailing edge of wing. Geometric twist	= 0,	
MODEL SCALE: 0.0125		
<u></u>	DWG. NO. VIT	0-0001404, -000200
DIMENSIONS:	FULL-SCALE	MODEL SCALE
TOTAL DATA		
Area (Theo.) Ft ²	The second of the	and or
Planform	2690.00	0.40
Span (Theo In.	936.68	40.0
Aspect Ratio	2.265	2.262
Rate of Taper	1.177	_1.177
Taper Ratio	0.200	0.200
Dinedral Angle, degrees	3.500	3,500
Incidence Angle, degrees	0.500	0.500
Aerodynamic Twist, degrees		
Sweep Back Angles, degrees	***************************************	
Leading Edge	45,00	45.00
Trailing Edge	- 10.056	- 10.056
0.25 Element Line	35.209	35.209
Chords:	commented de la companya de la commente de la comme	molecularitati interference
Root (Theo) B.P.O.O.	689.24	P. 616
Tip, (Theo) B.P.	137.85	1.723
MAC	1.71. 81	5 035
Fus. Sta. of .25 MAC	1136.83	5.935 14.210
W.P. of .25 MAC	290.58	3.632
B.L. of .25 MAC	1.82.13	2.277
	-	and the same of th
Area (Theo) Ft ²	1751 50	0.001
Area (Inco) Ft	1751.50	0.274
Span, (Theo) In. BP108	720.63	9.009
Aspect Ratio	2.059	2,059
Taper Ratio	0.21.5	0.21.5
Chords		
Root BP108	562.09	7.026
Tip 1.00 <u>b</u>	137.85	1.723
MAC 2	392.83	4.910
Fus. Sta. of .25 MAC	1185.98	14.825
W.P. of .25 MAC	CONTRACTOR OF PERSONS ACCOUNTS	3.679
B.L. of .25 MAC	294.30	
		3.147
Airfoil Section (Rockwell Mod NASA) XXXX-64		
	0 112	0.112
Root b =	0.113	0.113
Tip b =	0.120	0.120
2		
Data for (1) of (2) Sides		
Leading Edge Cuff Planform Area 5t2		
	117.10	0.0177
Leading Edge Intersects Fus M. L. 0 Sta	500.0	6,250
Leading Edge Intersects Wing @ Sta	1024.0	12,800

TABLE III (MODEL DIMENSIONAL DATA) a. Orbiter Model (Concluded)

MODEL COMPONENT : Mounting Strut - S1
GENERAL DESCRIPTION: Blade strut attachment to orbiter aft upper fuselage where vertical tail is normally mounted. Strut leading edge
and lower trailing edge conform to the vertical tail planform. Airfoil
section is blunted diamond. The tip of the strut mounts to a sting.
MODEL SCALE: 0.0125 DRAWING NUMBER: Rockwell W-11335H

	м	ODEL SCALE
Theoretical intersection of L.E. with fuselage ML, in.		
X _O		15.973
Zo		6.250
Leading edge sweep angle, deg.		45.0
Trailing edge sweep angle, deg.		45.0
chord length, in.		2.38
maximum thickness, in.		0.52
distance from L.E. to maximum thickness, in.		1.42
position of sting &, in. Zo		12.835

TABLE III (MODEL DIMENSIONAL DATA)

b. Carrier Model

MODEL COMPONENT: ATTACH STRUCTURE - AT96

GENERAL DESCRIPTION: Forward attach structure between the Orbiter and

Carrier, faired struts, io = 4°

MODEL SCALE: 0.0125

DRAWING NO.: Boeing Dwg. 747-MD-654, SS-A01559-4, -18, -35

DIE	NSIONS:		FULL SCALE	MODEL SCALE
	i _O , Incidence angle, deg. (Orbiter FRL to 747 FRL)		4.0	4.0
	Fairing chord, right and left	, In.	31.0	0.388
	Fairing T/C		0.226	0.226
	Carrier attach points, In.	BSTA	689.4	8.617
		BWL	372.0	4.650
		BL	66.3	0.829
	Orbiter attach points, In.	x _o	388.15	4.852
		z _o	283.11	3.539
		Yo	0.0	0.0
		BSTA	681.52	8.519
		BWL	480.4	6.005

b. Carrier Model

MODEL COMPONENT: ATTACH STRUCTURE - AT99

GENERAL DESCRIPTION: Aft attach structure between orbitor and carrier,

same as AT95 with a single fairing covering the main strut and drag strut

on each side, and a fairing on the sway brace.

MODEL SCALE: 0.0125

DRAWING NO.: Boeing Dwg 747-MD-658, W-1135A-11, -12, SS-A01559-33, -34, -35

DIMENSIONS:		FULL SCALE	MODEL SCALE
Orbiter attach points, In.	x _o	1317.0	16.462
	Yo	± 96.51	± 1.206
	Zo, BL	267.5	3.344
	BSTA	1607.0	20.087
	BWL	400.0	5.000
Main fairing:			
Root chord, In.		250.0	3.125
T/c of root chord		0.09	0.09
Tip chord, In.		120.0	1.500
T/c of tip chord		0.14	0.14
Sway brace:			
Chord, In.		31.0	0.388
T/c		0.226	0.226

b. Carrier Model

MODEL COMPONENT: ATTACH STRUCTURE - AT112

GENERAL DESCRIPTION: Forward attach structure between the Orbiter and Carrier with truncated strut fairings. The Orbiter/strut attach point is covered with a "bathtub" fairing, and the 747/strut attach points are also faired over. Struts are set in the $i_0 = 4^\circ$ position.

MODEL SCALE: 0.0125

DRAWING NO.: Boeing Dwgs. 747-MD-680 (Modified), AX 1319-224

DIMENSIONS:		FULL SCALE	MODEL SCALE
io, Incidence angle, deg (Orbiter FRL to 747	FRL)	4.0	4.0
Strut Fairing Chord, In. t/c Length, (Each side), I	în.	18.667 0.480 112.0	0.233 0.480 1.400
Orbiter/Strut "Bathtub" Chord, In. t/c	Fairing	87.20 0.275	1.09 0.275
Carrier Attach Points, I	BSTA BWL BU	600.0 372.0 ±66.3	8.500 4.650 ±0.829
Orbiter Attach Point, In	X _O Z _O Y _O BSTA BWL	388.15 283.11 0.0 680.0 480.4	4.852 3.539 0.0 8.500 6.005

b. Carrier Model

MODEL COMPONENT: ATTACH STRUCTURE - AT113

GENERAL DESCRIPTION: Aft attach structure between Orbiter and Carrier, all components except the drag struts are faired. Consists of two faired vertical members, two sway braces, and two drag struts. There are fairing blisters at each end of the sway braces and on the forward end of the drag struts.

MODEL SCALE: 0.0125

DRAWING NO.: Boeing Dwgs. 747-MD-683, AX 1319-213

DIM	ensions:		FULL SCALE	MODEL SCALE
	Orbiter Attach Points, In.			
		Xo	1317.0	16.462
		Yo Zo BSTA	±96.51	1.206
		Zo	267.5	3.344
			1607.0	20.087
		BMT	400.0	5.000
	747 Attach Points, In.			
		BSTA	1607.0	20.087
		BWL	320.0	4.000
		BL	±96.51	±1.206
	Main Strut Fairings			
	Root chord (BWL 320-			
	358.8), In.		80.0	
	t/c, Root chord		0.183	0.183
	Tip chord, Theoretical			
	(BWL 398), In.		137.0	1.713
	t/c, Tip chord,			
	Theoretical		0.250	0.250
	Sway Brace Fairings			
	Chord, In.		40.28	0.504
	t/c		0.180	0.180
	Length (Each side), In.		56.0	0.700
	Drag Struts			
	Fwd attach points	BSTA, in.	1443	18.038
		BWL, in.	320	4.000
		BL, in.	196.51	1.206
	Diameter, In.		12.0	0.150

MODEL COMPONENT : BODY - B27 6		
GENERAL DESCRIPTION : Body 74-	7 Project with A.P.V.	
MODEL SCALE: 0.0125	MODEL DWG: 13181-	1
DRAWING NUMBER: _65013609, 131	8-54	
9		
DIMENSIONS :	FULL SCALE	MODEL SCALE
Length , In.	2702.0	33.78
Max Width , In.	255.3	3.19
Max Depth		
Fineness Ratio	9.73	9.73
Area - Ft ²		
Max. Cross-Sectional		-
Planform		
Wetted	14.093	2.20
Base		

b. Carrier Model

MODEL COMPONENT: HORIZONTAL TAIL - H15.6

GENERAL DESCRIPTION: Horizontal tail, H15, with vertical fins on each

tio at body B.L. 427.3

MODEL DWG: 13181-1 MODEL SCALE: 0.0125

DRAWING NO.: 65Cl3609, 1318-5, 1318-70

	WORDS COLLE
FULL SCALE	MODEL SCALE
200.0	0.0312
252.0	3.15
113.6	1.42
	252.0

b. Carrier Model

MODEL COMPONENT: M25

GENERAL DESCRIPTION: Inboard 747, JT9D nacelle strut

MODEL SCALE: 0.0125 MODEL DWG: 13181-1

DRAWING NO.: 65013609, 1318-60

DIMENSIONS: FULL SCALE MODEL SCALE Wing B.L. of nacelle C_L , In. 470.0 5.875

Cant angle deg., inboard 2.0 2.0

b. Carrier Model

MODEL COMPONENT: M26

GENERAL DESCRIPTION: Outboard 747, JT9D

Strut

MODEL SCALE: 0.0125 MODEL DWG: 13181-1

DRAWING NO.: 65C13609, 1318-60

W L of C_L, In.

FULL SCALE MODEL SCALE

834.0

10.425

Cant angle, deg. inboard 2.0 2.0

b. Carrier Model

MODEL COMPONENT: N57

GENERAL DESCRIPTION: Inboard fan cowl and primary 747 nacelle, flow-

through type.

MODEL SCALE: 0.0125

MODEL DWG: 1318I-1

DRAWING NO.: 65C13609, 1318-60

b. Carrier Model

MODEL COMPONENT: N58

MODEL DESCRIPTION: Outboard fan cowl and primary 747 nacelle, flow-

through type.

MODEL SCALE: 0.0125

DRAWING NO.: 65013609, 1318-60

MODEL DWG: 13181-1

b. Carrier Model

MODEL COMPONENT: SPOILERS - S1-12

GENERAL DESCRIPTION: Multi-panel flight spoilers. Four outboard and two inboard spoilers per side. Subscript denotes spoiler panel S_1 is the most outboard L.H. panel and S_{12} is most outboard R.H. panel.

MODEL SCALE: 0.0125 MODEL DWG: 13181-1

DRAWING NO.: 65013609, 1318-56

DIMENSIONS: (ONE PANEL)	FULL SCALE	MODEL SCALE
Outboard S ₁₋₄ and S ₉₋₁₂ (Ft ²)	21.48	0.0034
Span (equivalent), In.	75.00	0.94
Chord, In.	41.28	0.52
Inboard, S5-6 and S7-8 (Ft2)	35.31	0.0055
Span (equivalent), In.	90.00	1.130
Chord, In.	56.52	0.71

b. Carrier Model

MODEL COMPONENT: T14

GENERAL DESCRIPTION: Flap track fairings, four on each side

MODEL SCALE: 0.0125

DRAWING NO.: 65013609, 1318-67

DIMENSIONS:	FULL SCALE	MODEL SCALE
WBL of Track No. 1, In.	235.3	2.94
2, In.	353.0	4.41
3, In.	585.0	7.31
4, In.	743.6	9.30
Distance from wing		
Trailing edge to:		
Track trailing edge, In.	44.0	0.55

b. Carrier Model

MODEL COMPONENT: VERTICAL - V9.1

GEMERAL DESCRIPTION: Swept vertical tail

MODEL SCALE: 0.0125 MODEL DWG: 1318I-1

DRAWING NO.: 65013609, 1318-8

DIMENSIONS:		FULL SCALE	MODEL SCALE
TOTAL	DATA		
	Area (Theo), Ft ²	630.0	0.098
	Span (Theo), In.	386.5	4.830
	Sweepback angles, deg., L.E.	50.12	50.12
	Aspect ratio	1.25	1.25
	Chord:		
	Root (Theo), WP, In.	461.67	5.77
	Tip (Theo), WP, In.	157.0	1.96
	Mean Aerodynamic Chord, In.	334.16	0.43
	Fus. Sta. of 0.25 MAC	2529.6	31.62
	W.P. of 0.25 MAC	528.0	6.60

TABLE III (Concluded)

b. Carrier Model

WING - W44.1 MODEL COMPONENT:

Swept 747 wing GENTRAL DESCRIPTION:

		MODER DUG.	121 OT 1
MODEL SCALE:	0.0125	MODEL DWG:	T)101-T

FULL SCALE	MODEL SCALE
5500.00	0.860
2348.0	29.35
6.96	6.96
7.0	7.0
327.8	4.10
1339.87	16.75
190.42	2.38
	5500.00 2348.0 6.96 7.0 327.8 1339.87

TABLE IV.

CA-26 DATASET DESCRIPTION

Dataset Type

Description

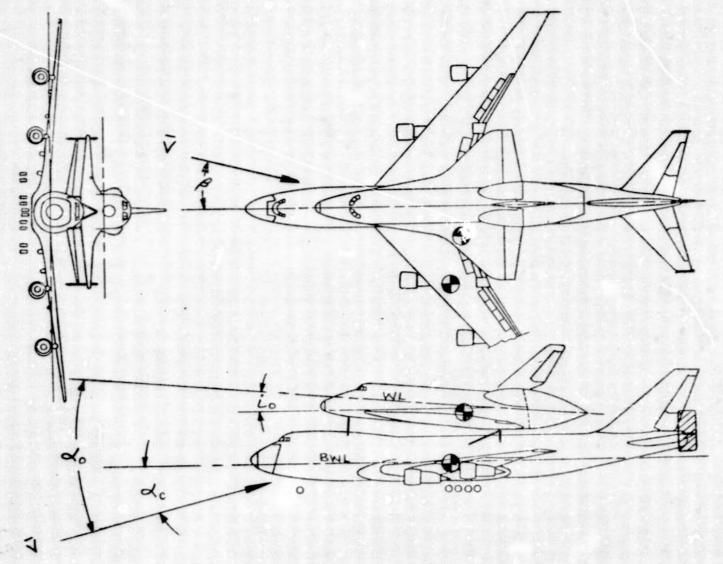
RFEXXX YFEXXX SFEXXX ZFEXXX Carrier main balance data. Due to the large amount of data, alternate points were placed in corresponding datasets, e.g., R + S = total. Y and Z contain additional variables supplementary to R and S, respectively.

AFEXXX WFEXXX BFEXXX XFEXXX Orbiter balance data. Data were separated similar to the carrier data where W and X contain the supplementary variables.

a. General

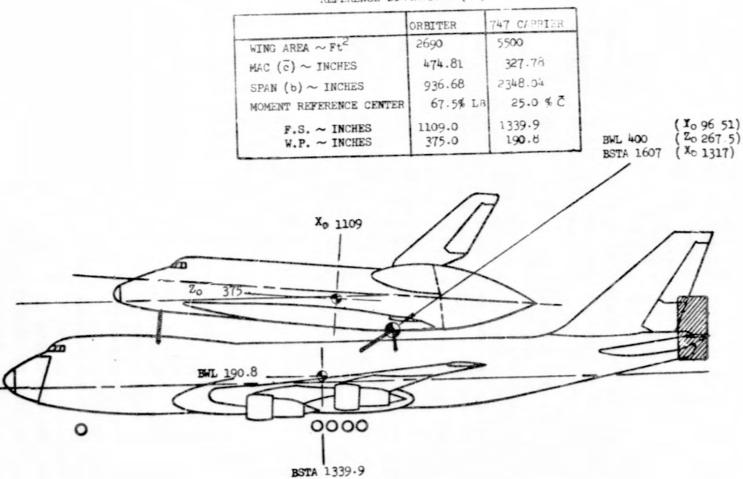
Figure 1. Axis systems.

77

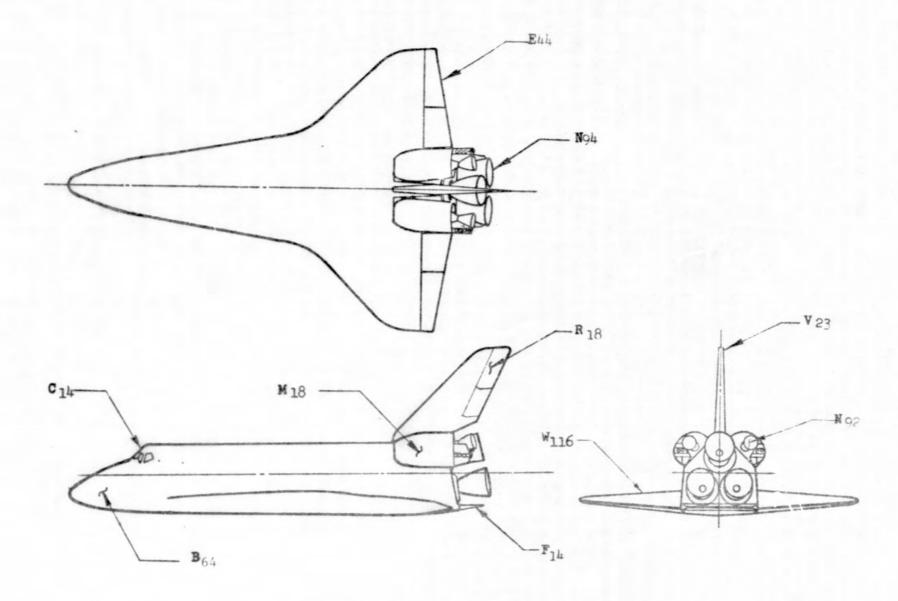


b. Orbiter/747 Angular Relations
 Figure 1. Axis systems

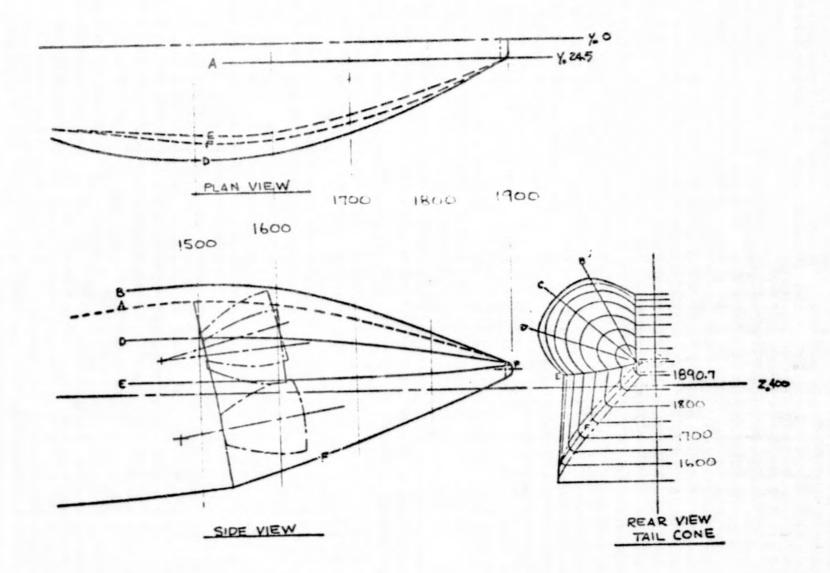
REFERENCE DIMENSIONS (FS)



c. Orbiter/747 Flight Test Configuration Reference Dimensions Figure 1. Axis systems

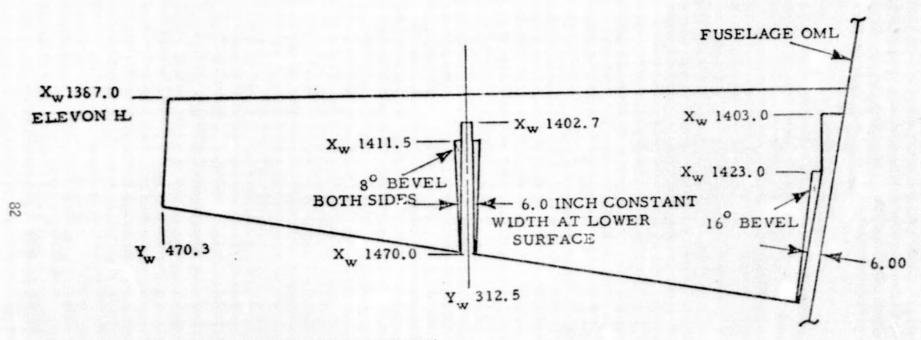


a. SSV Orbiter Configuration (VC70-000002) Figure 2. Model Instrumentation Sketches



b. Orbiter Tail Cone -- TC4 (X3B)
Figure 2. Model Instrumentation Sketches

E44 elevon with 6.0 inch gaps installed. Flipper doors, centerbody pieces, and tip seals are not simulated.

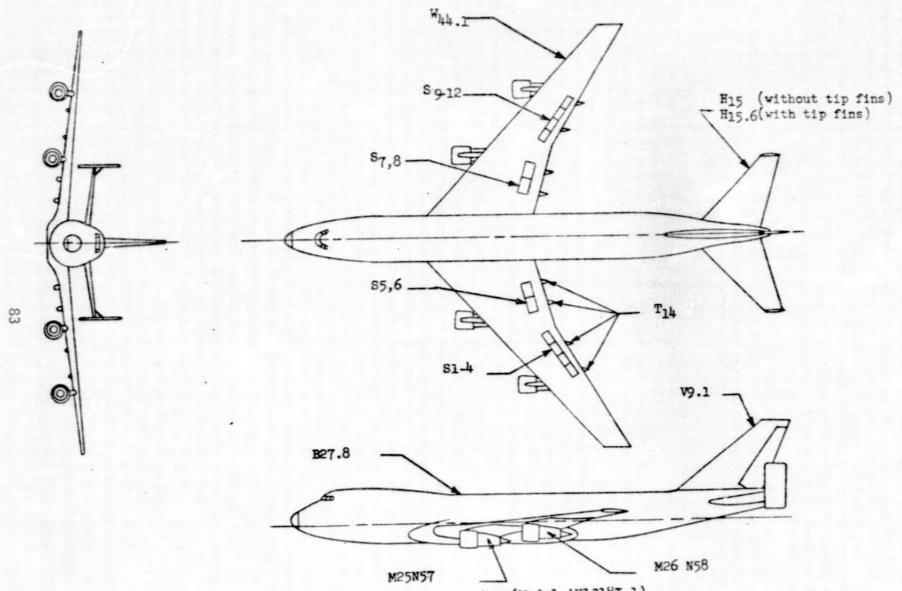


(ALL DIMENSIONS ARE FULL SCALE, INCHES)

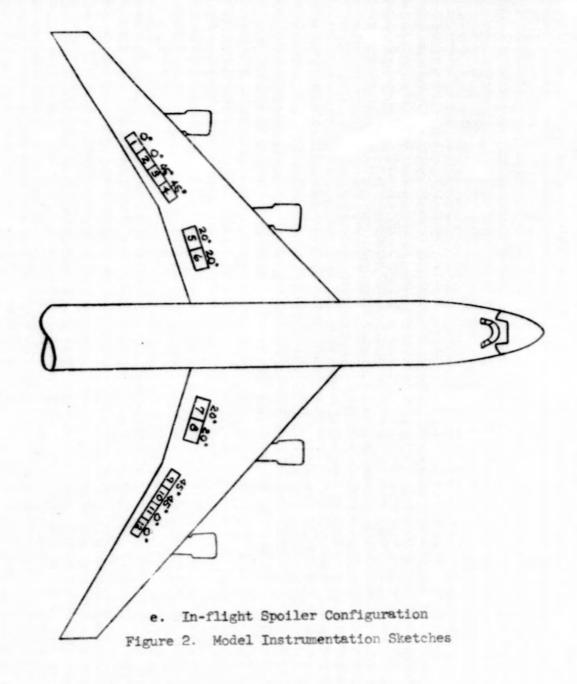
(VIEW IS PERPENDICULAR TO WING REFERENCE PLANE)

c. Elevon - E44

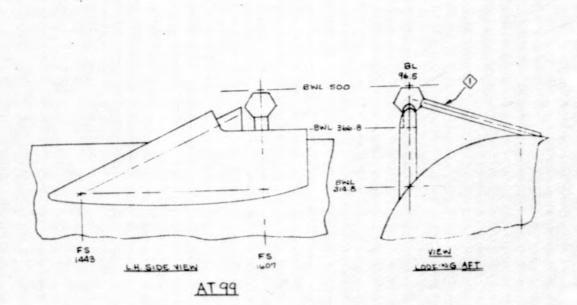
Figure 2. Model Instrumentation Sketches



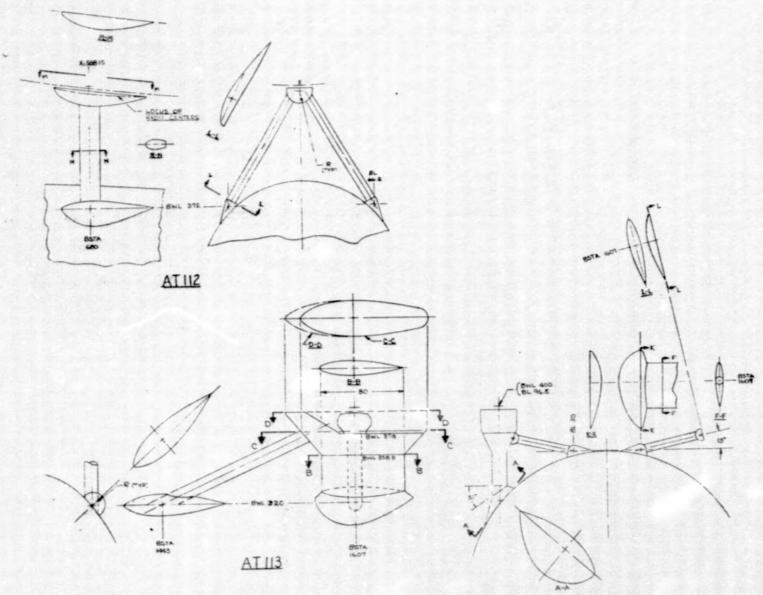
d. 747-100 Configuration (Model AX1318I-1)
Figure 2. Model Instrumentation Sketches



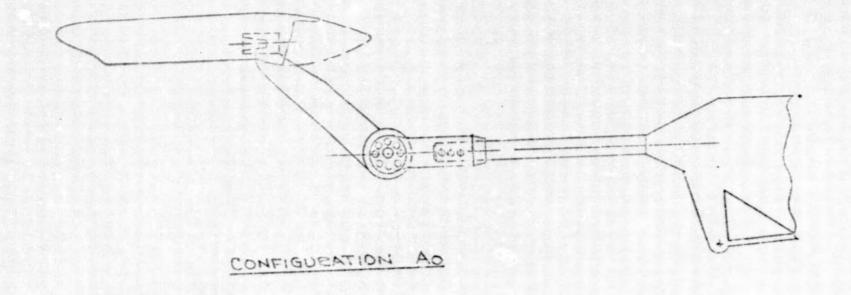
85

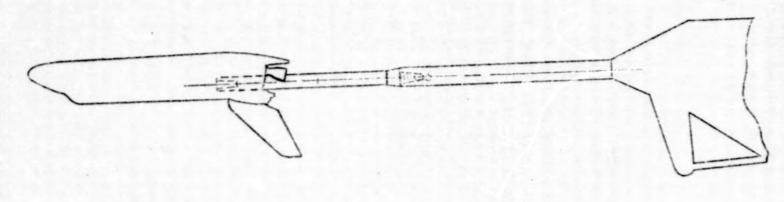


f. Simulated Attach Structure ATo, and ATog (ATx) Figure 2. Model Instrumentation Sketches



g. Simulated Attach Structure AT_{112} and AT_{113} (ATy) Figure 2. Model Instrumentation Sketches

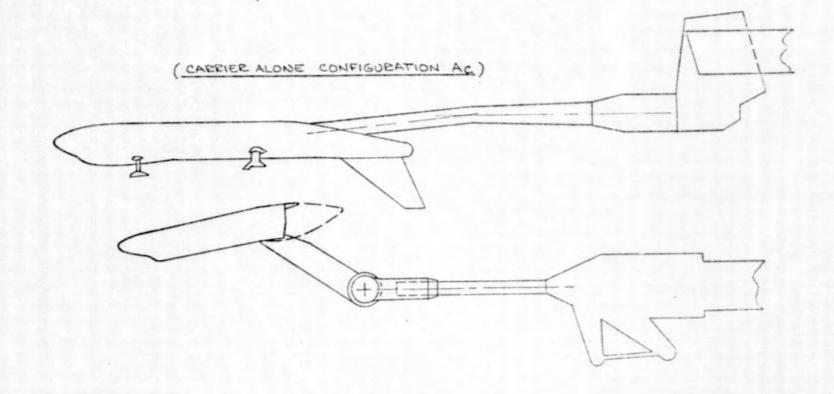




CONFIGURATION AS

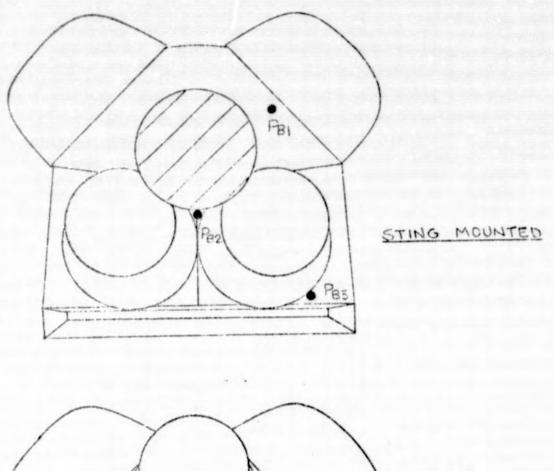
h. Orbiter Alone Installation Sketches

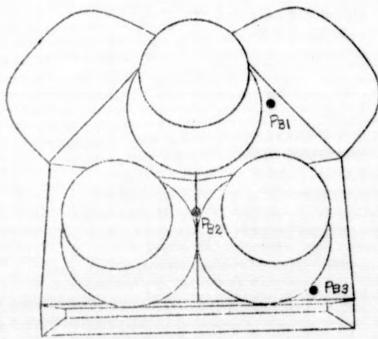
Figure 2. Model Instrumentation Sketches



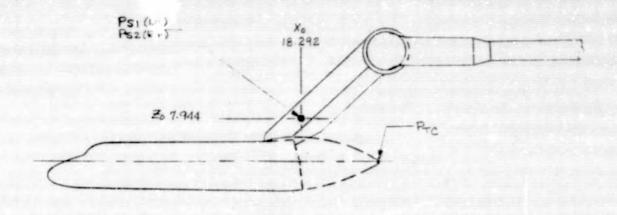
CONFIGURATION AL

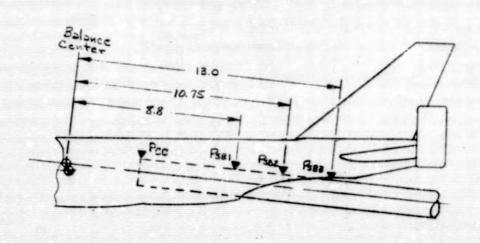
Carrier and Separation Installation Sketches
 Figure 2. Model Instrumentation Sketches





j. Orbiter Base Pressure Tap Locations
Figure 2. Model Instrumentation Sketches

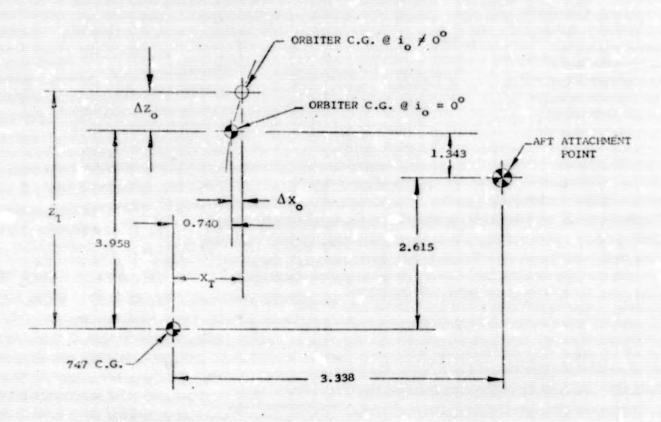




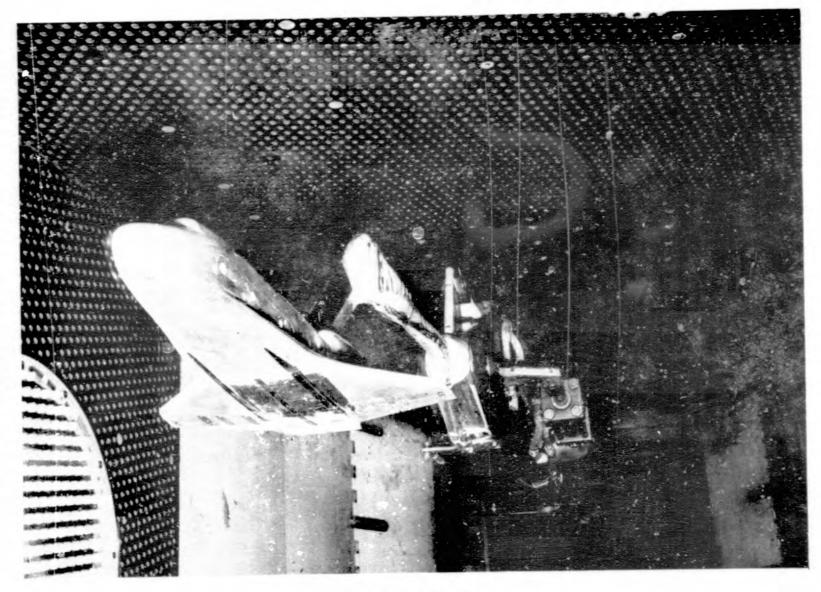
k. Sting and Strut Pressure Tap Locations Figure 2. Model Instrumentation Sketches

$$\Delta x_0 = 2.925 \text{ COS } (i_0 + 27.336)$$

 $\Delta Z_0 = 2.925 \text{ S1H } (i_0 + 27.336) - 1.343$
 $X_{\text{TRANSFER}} = 0.740 + \triangle x_0$
 $Z_{\text{TRANSFER}} = 3.958 + \triangle Z_0$

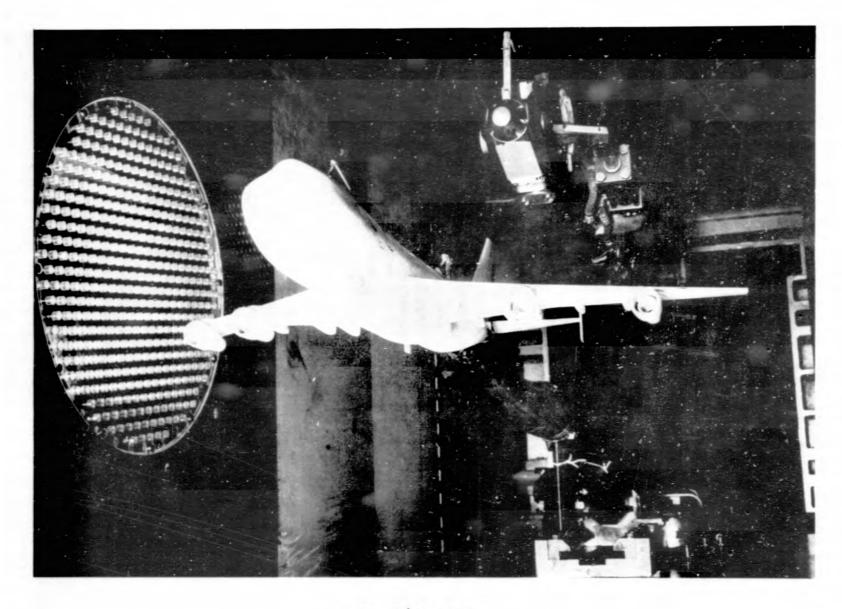


1. Orbiter/747 Moment Transfers (Mated)
Figure 2. Model Instrumentation Sketches



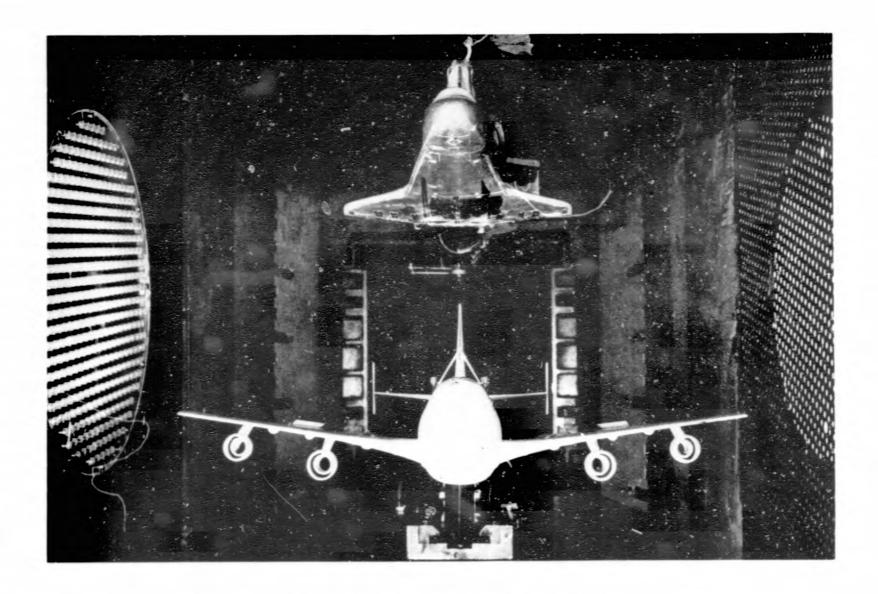
a. Orbiter Alone

Figure 3. Model Installation



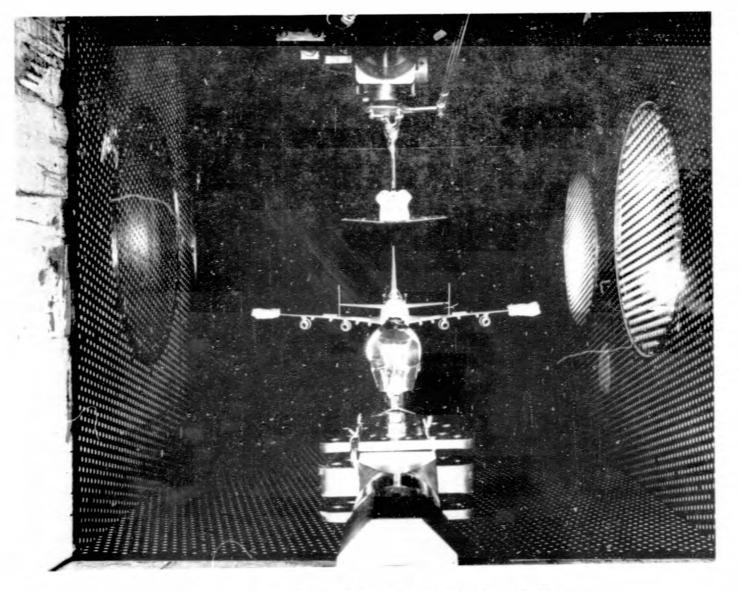
b. 747 Alone

Figure 3. - Model Installation



Front View, Orbiter Separating From 747
 Figure 3. - Model installation

(Reverse



d. Rear View, Orbiter Separating From 747 Figure 3. Model installation

DATA FIGURES

LTV44-559(CA26) 747/1 ATY 02 SI (ORBITER DATA) (AFE093)

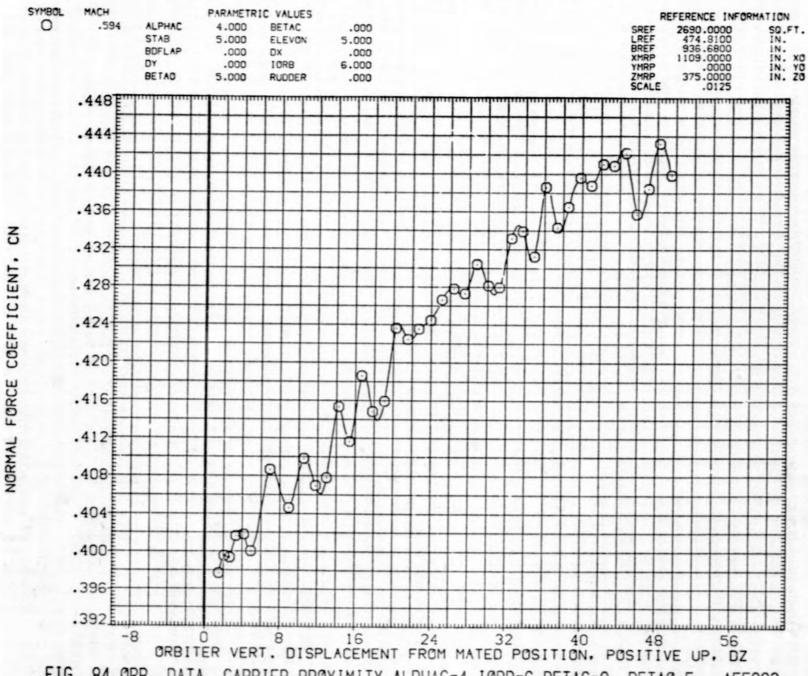


FIG. 84 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=6, BETAC=0, BETAO=5, AFEO93

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE093)

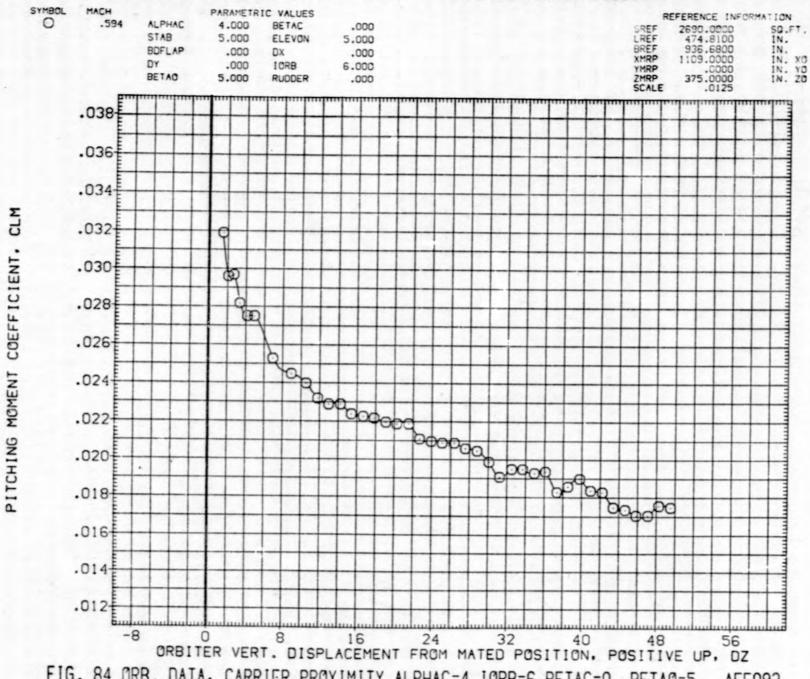


FIG. 84 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=6, BETAC=0, BETAO=5, AFEO93

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE093)

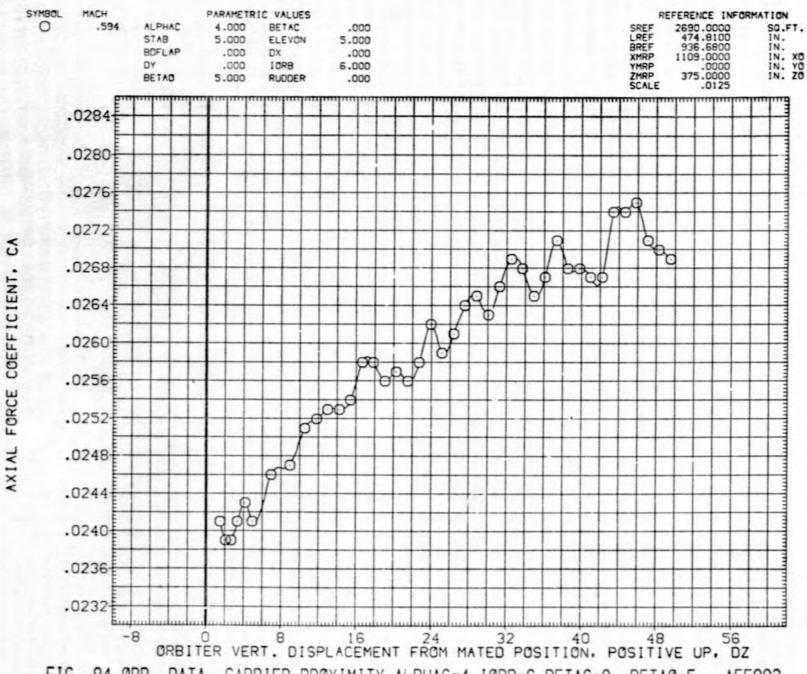


FIG. 84 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=6, BETAC=0, BETAO=5, AFEO93

LTV44-559(CA26) 747/1 ATY 02 SI (ORBITER DATA) (AFE093)

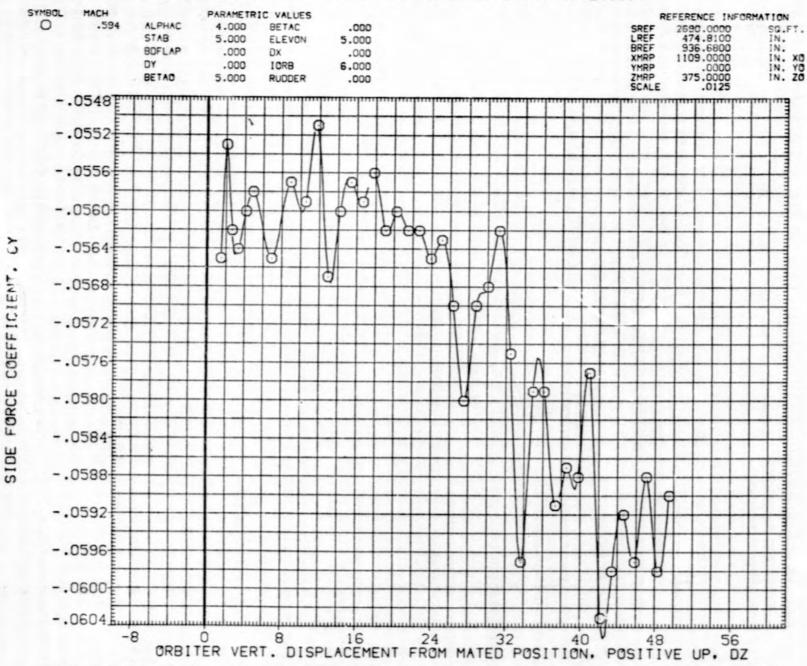
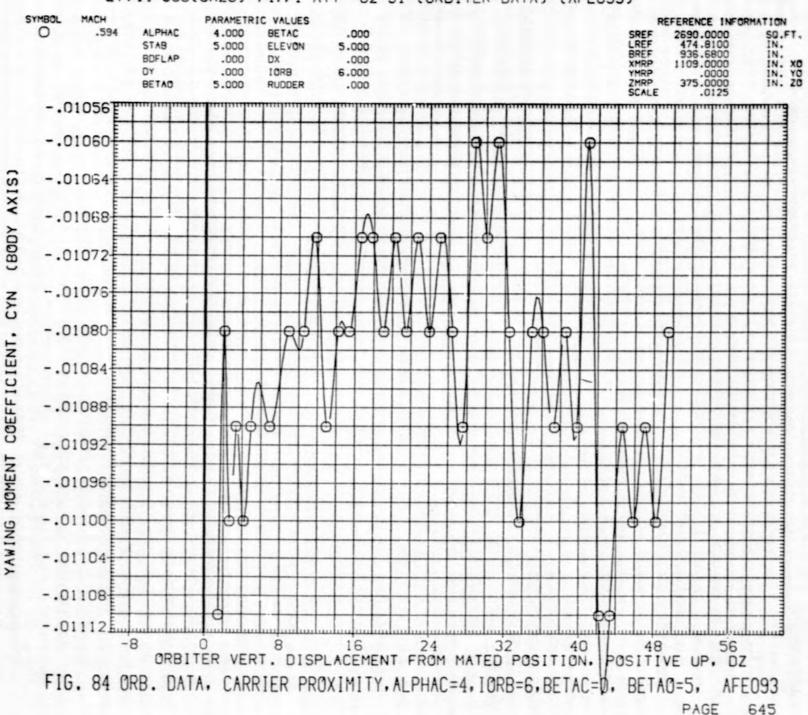
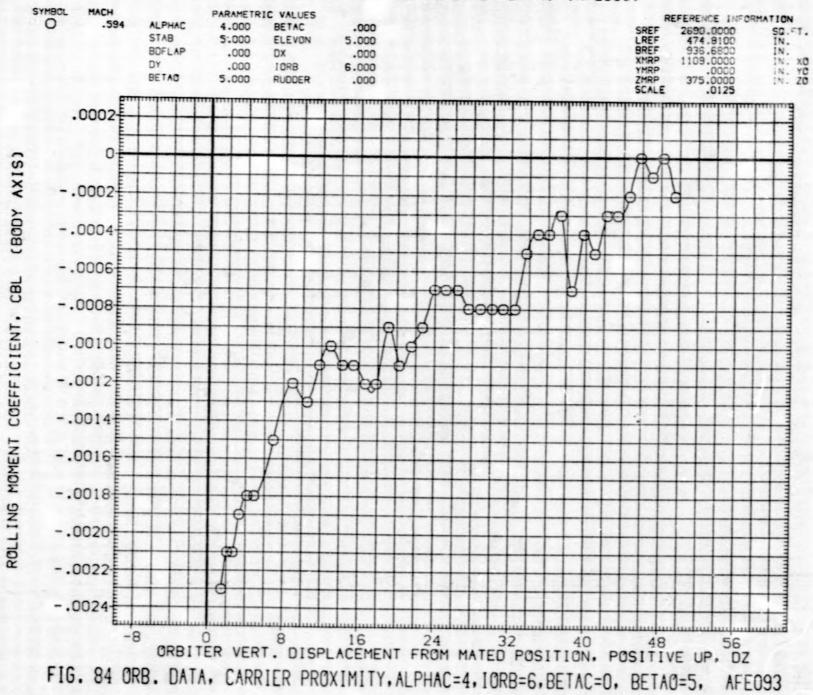


FIG. 84 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=6, BETAC=0, BETAO=5, AFEO93

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE093)



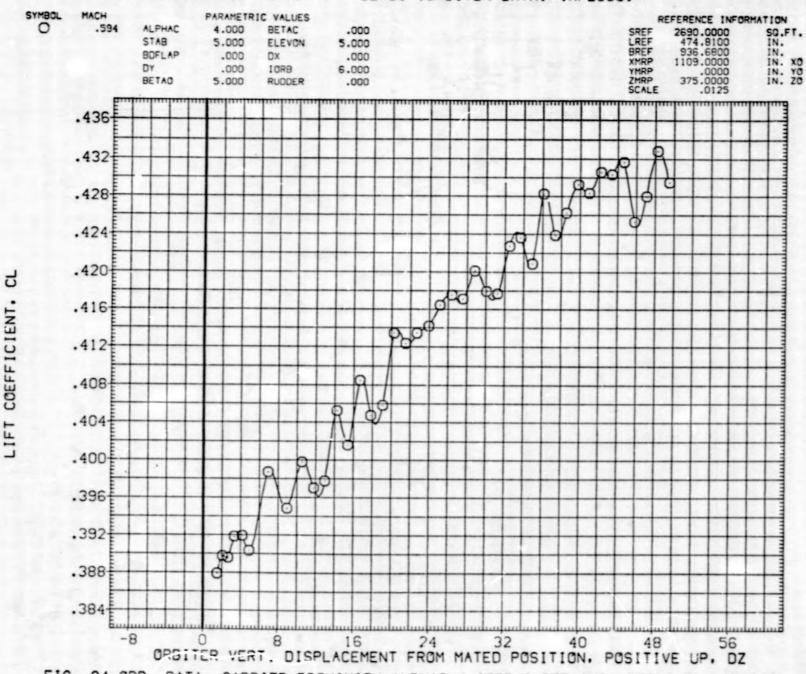
LTV44-559(CA26) 747/1 ATY 02 SI (ORBITER DATA) (AFE093)



PAGE

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LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE093)



LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE093)

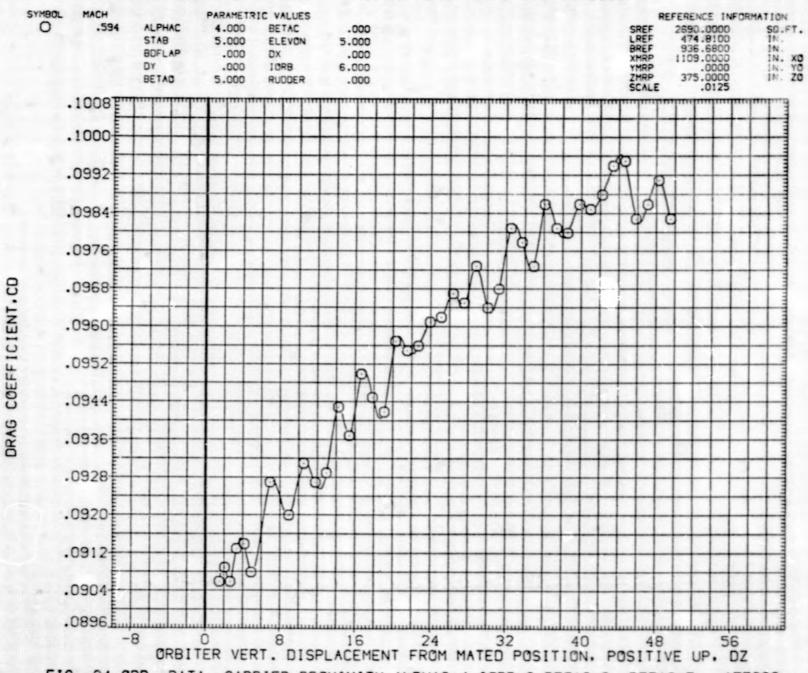


FIG. 84 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=6, BETAC=0, BETAO=5, AFEO93

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE094)

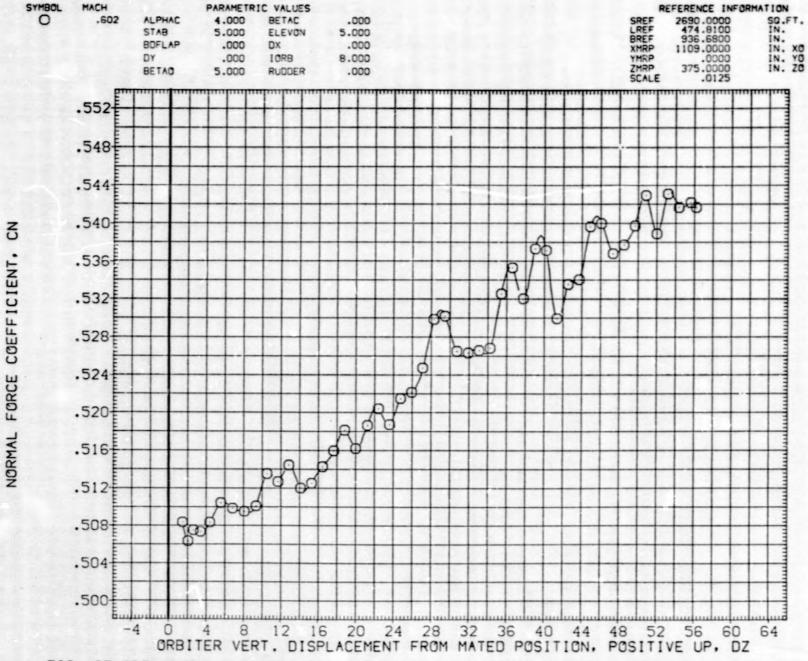


FIG. 85 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=8, BETAC=0, BETAO=5, AFEO94

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE094)

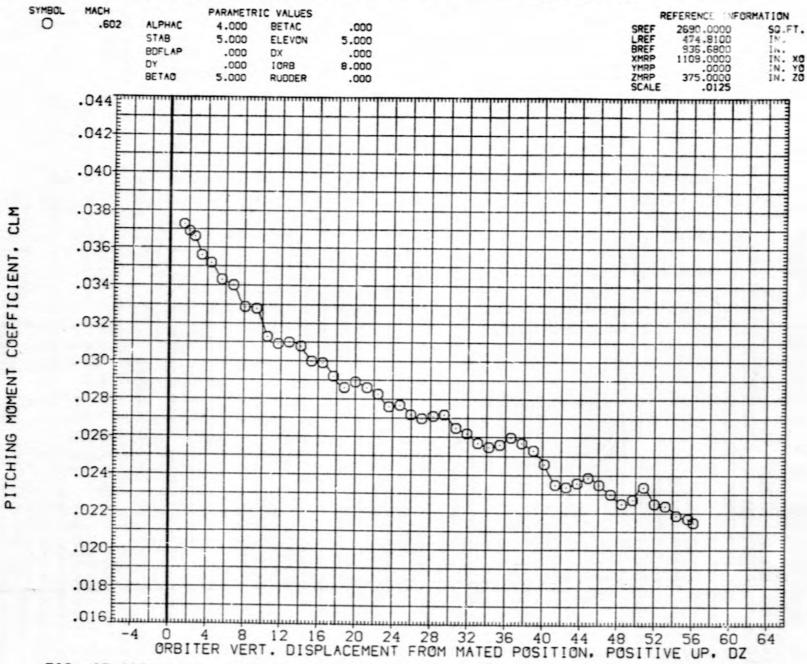


FIG. 85 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=8, BETAC=0, BETAO=5, AFEO94

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE094)

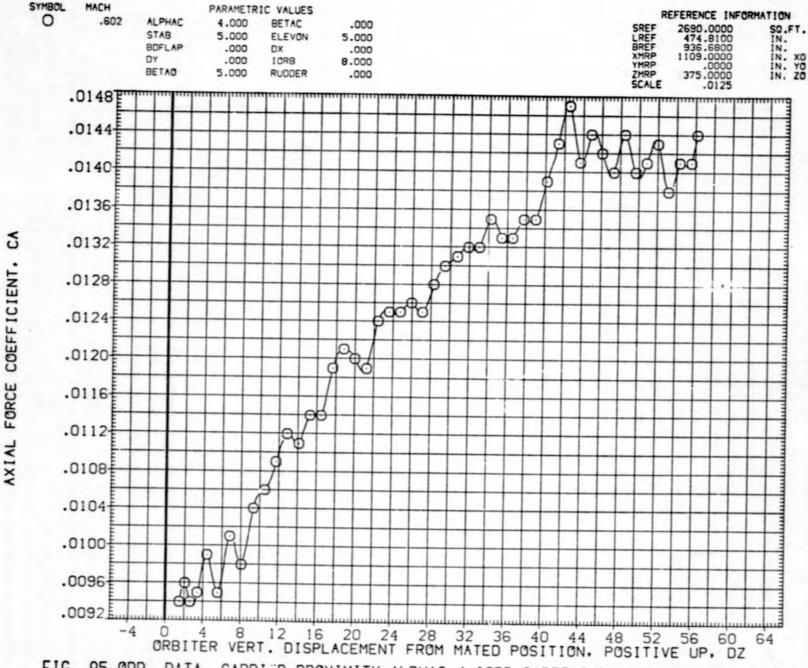


FIG. 85 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=8, BETAC=0, BETAO=5, AFEO94

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE094)

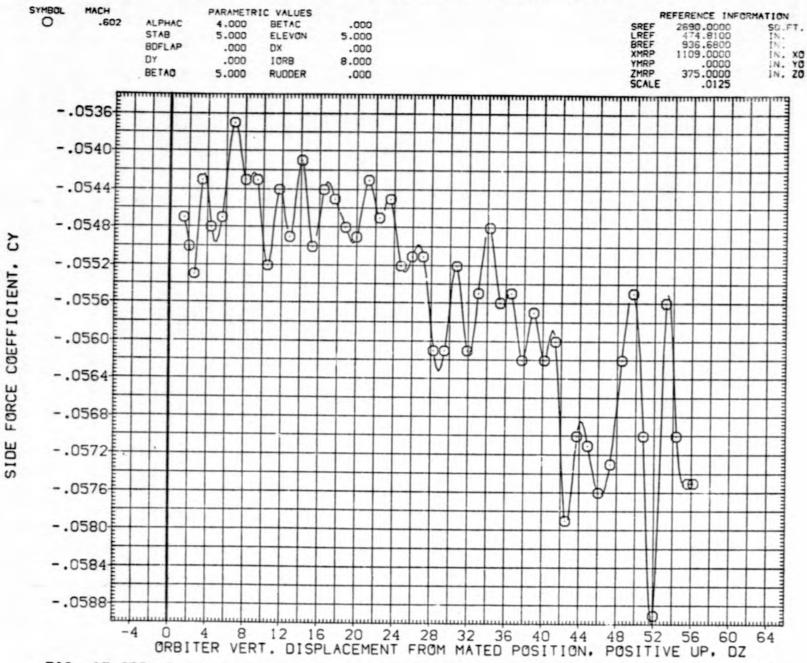


FIG. 85 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=8, BETAC=0, BETAO=5, AFEO94

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE094)

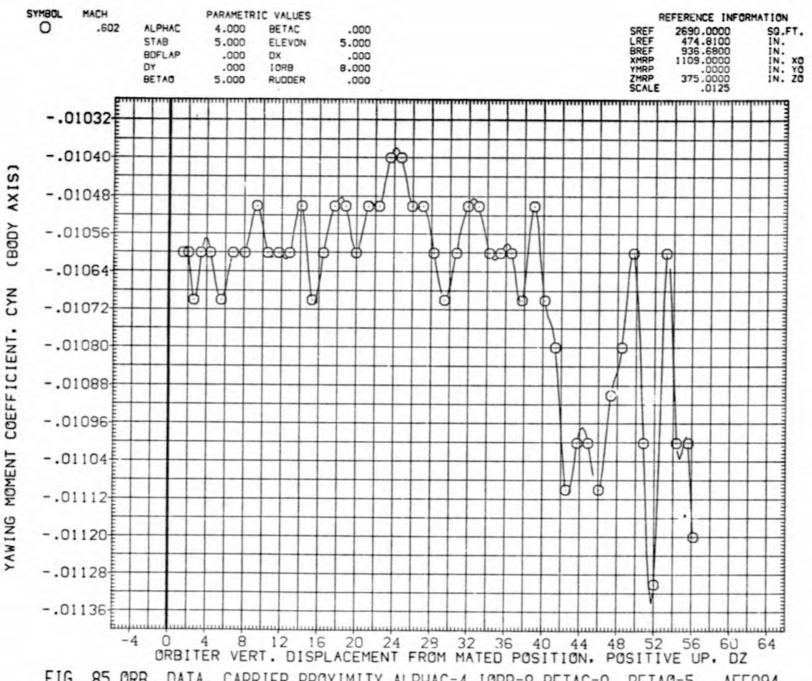


FIG. 85 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=8, BETAC=0, BETAO=5, AFEO94

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE094)

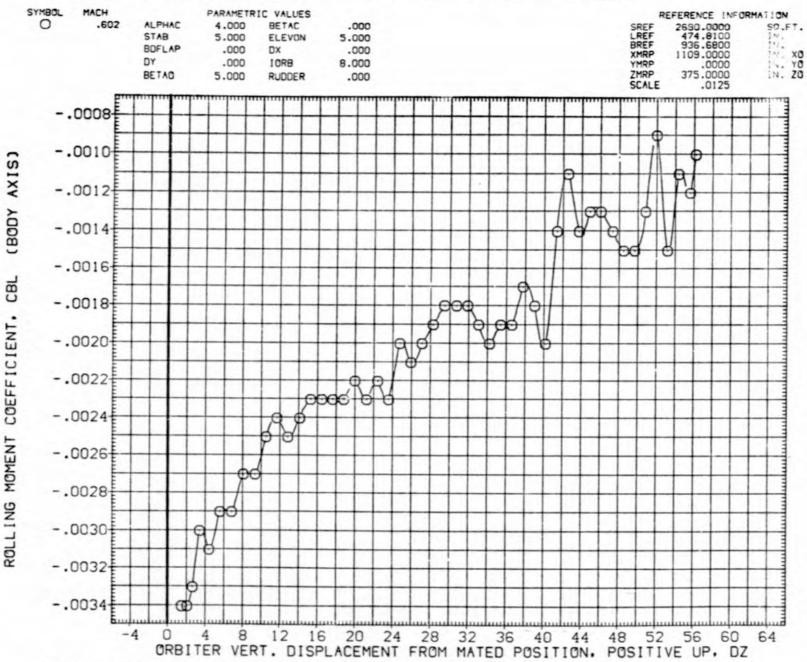


FIG. 85 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=8, BETAC=0, BETAO=5, AFEO94

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE094)

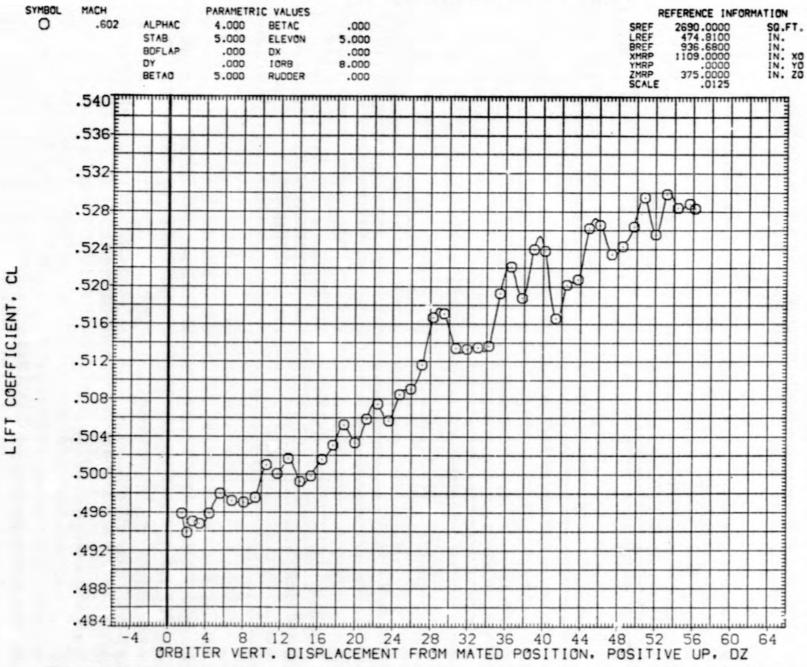


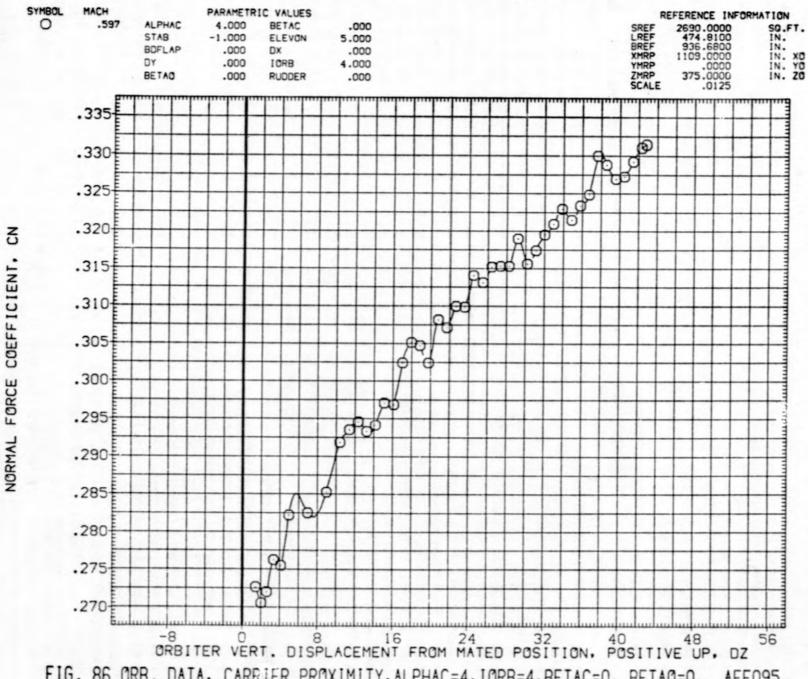
FIG. 85 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=8, BETAC=0, BETAO=5, AFEO94

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE094)

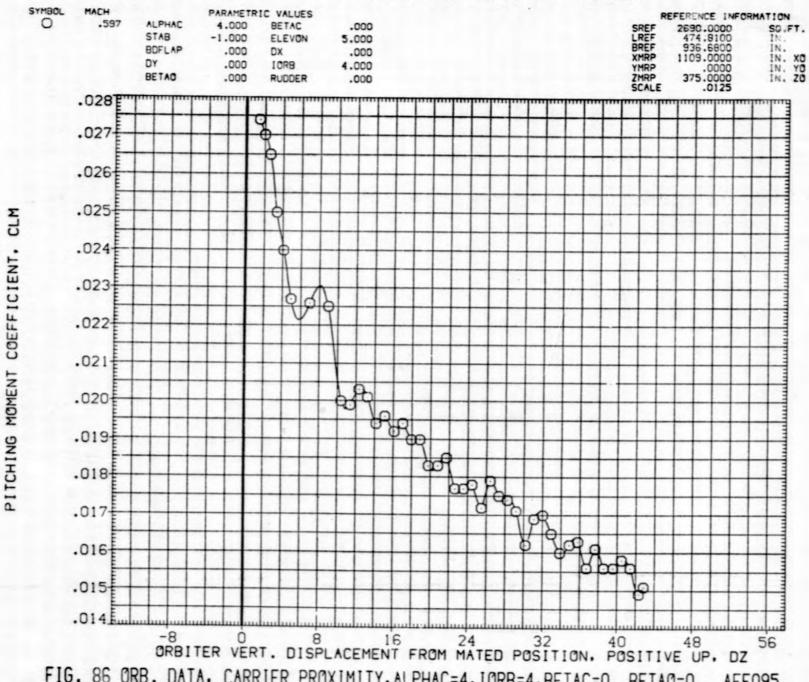


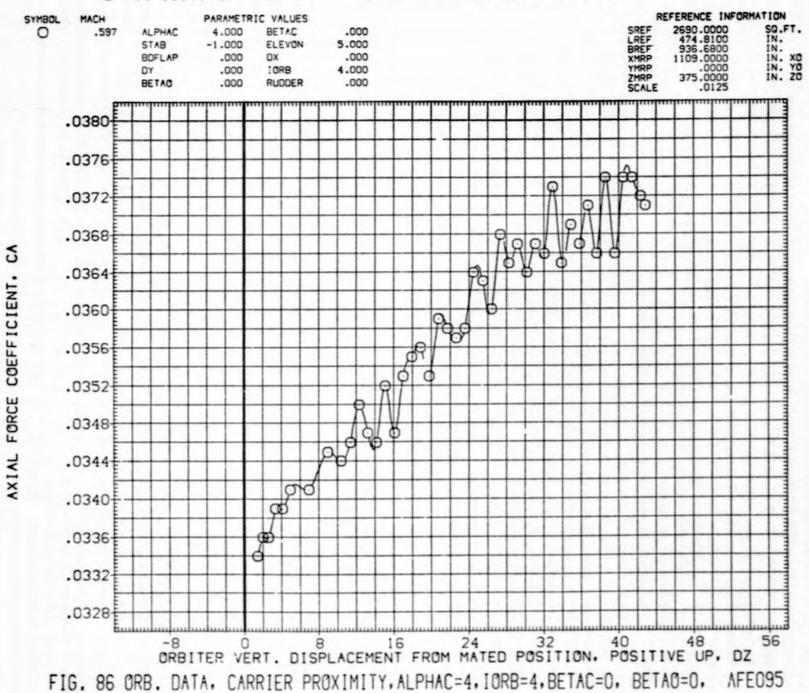
FIG. 85 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=8, BETAC=0, BETAO=5, AFEO94

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE095)



LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE095)





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LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE095)

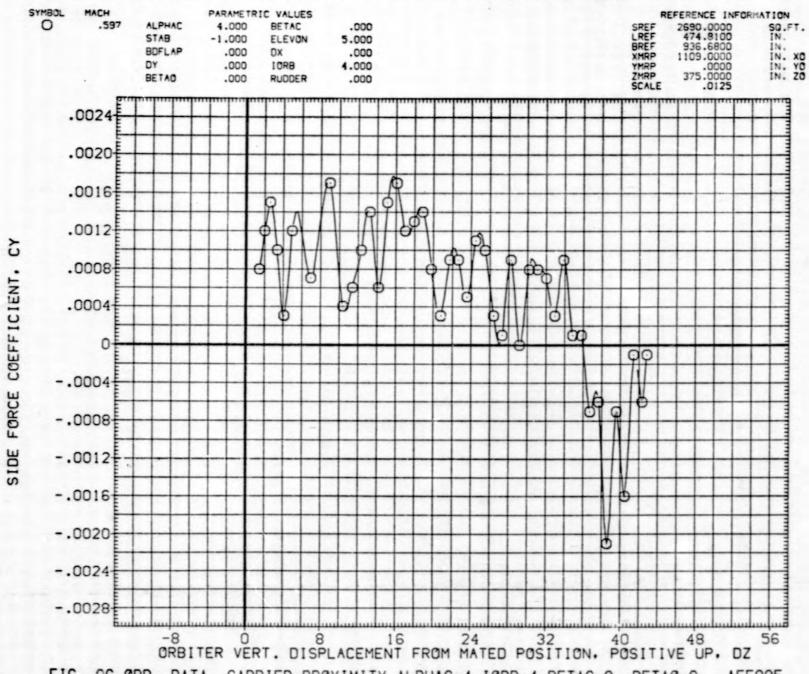
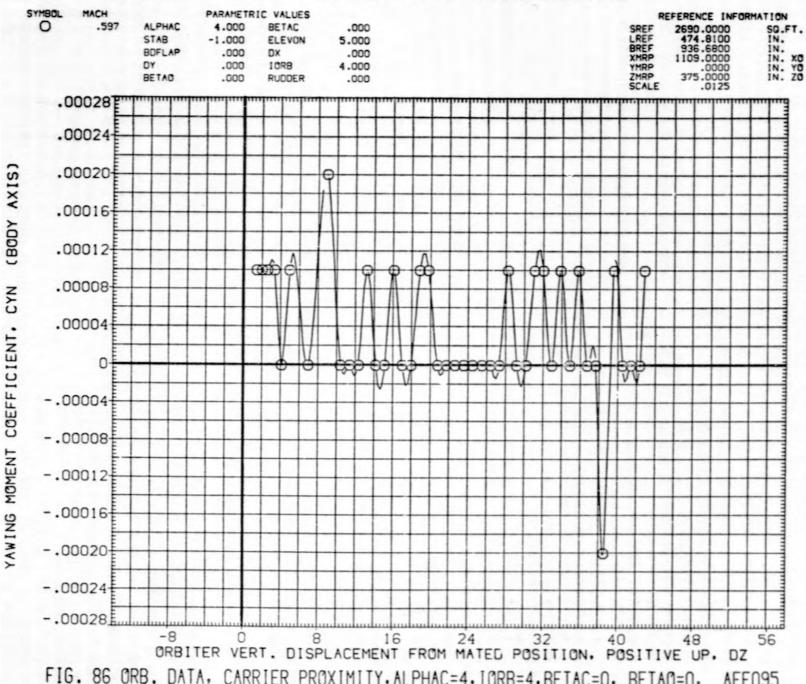
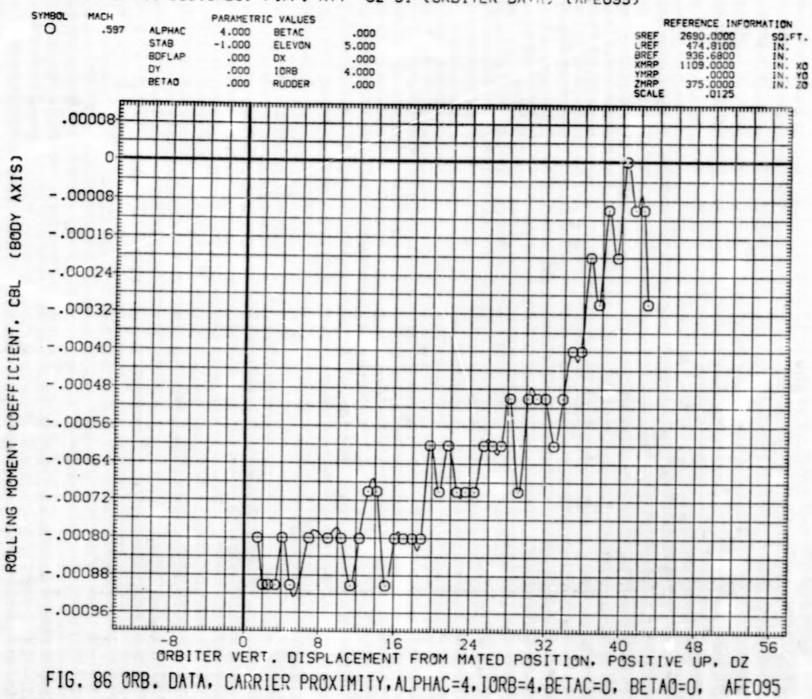


FIG. 86 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=4, BETAC=0, BETAO=0, AFEO95

LTV44-559(CA26) 747/1 ATY 02 SI (ORBITER DATA) (AFE095)



LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE095)



LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE095)

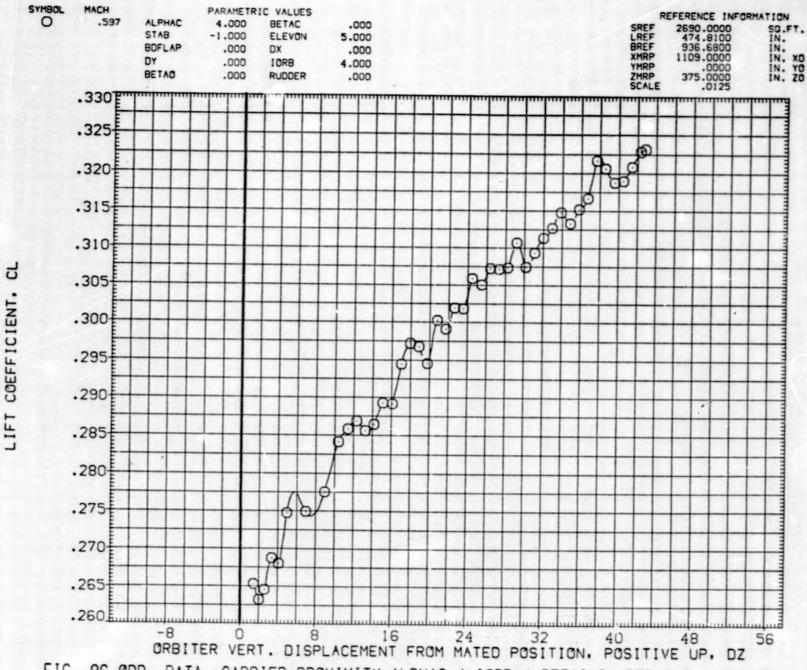


FIG. 86 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=4, BETAC=0, BETAO=0, AFEO95

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE095)

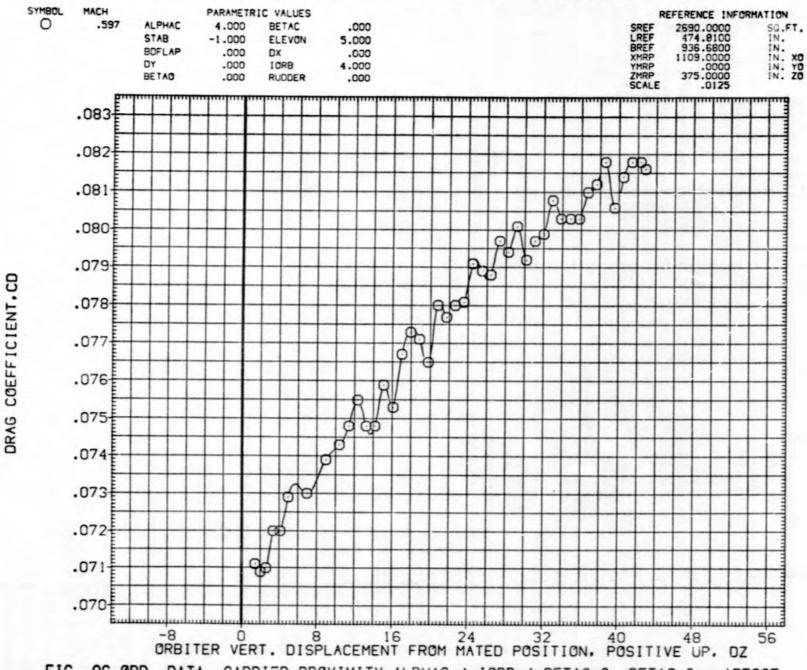
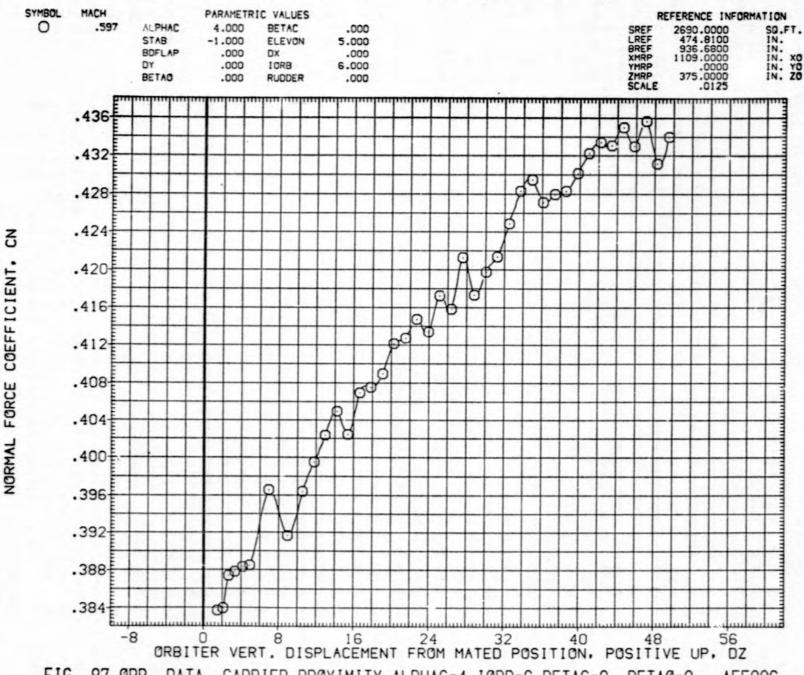


FIG. 86 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=4, BETAC=0, BETAO=0, AFEO95

LTV44-559(CA26) 747/1 ATY 02 SI (ORBITER DATA) (AFE096)



LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE096)

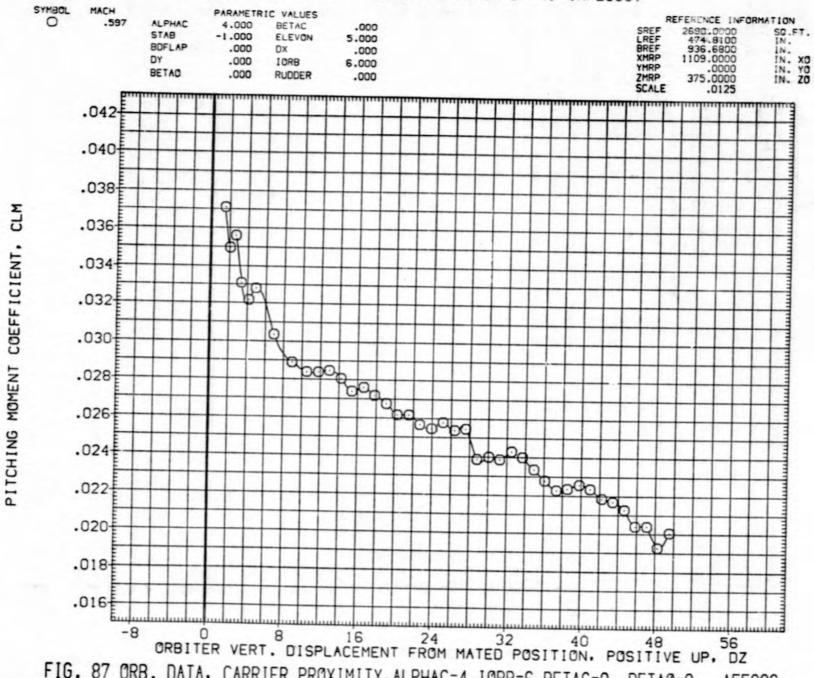
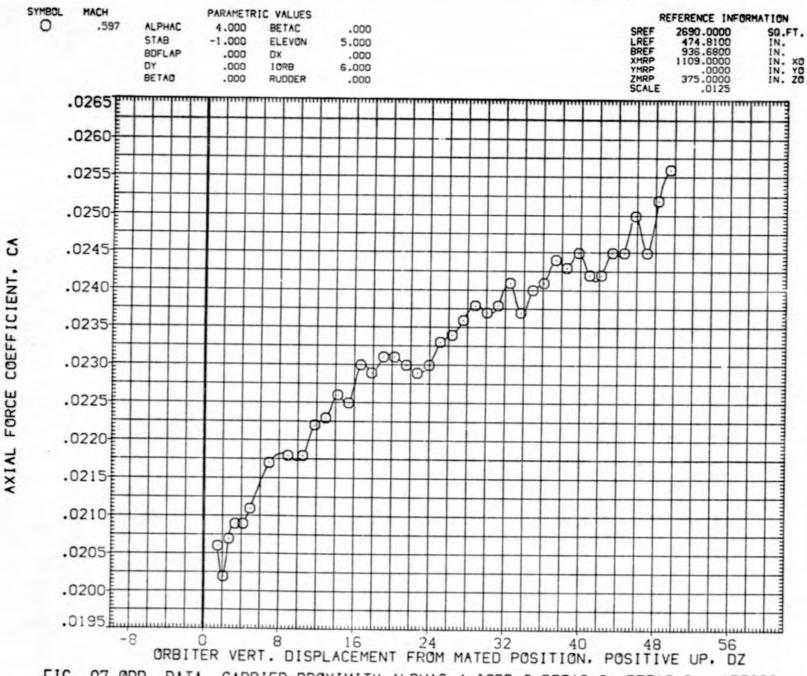
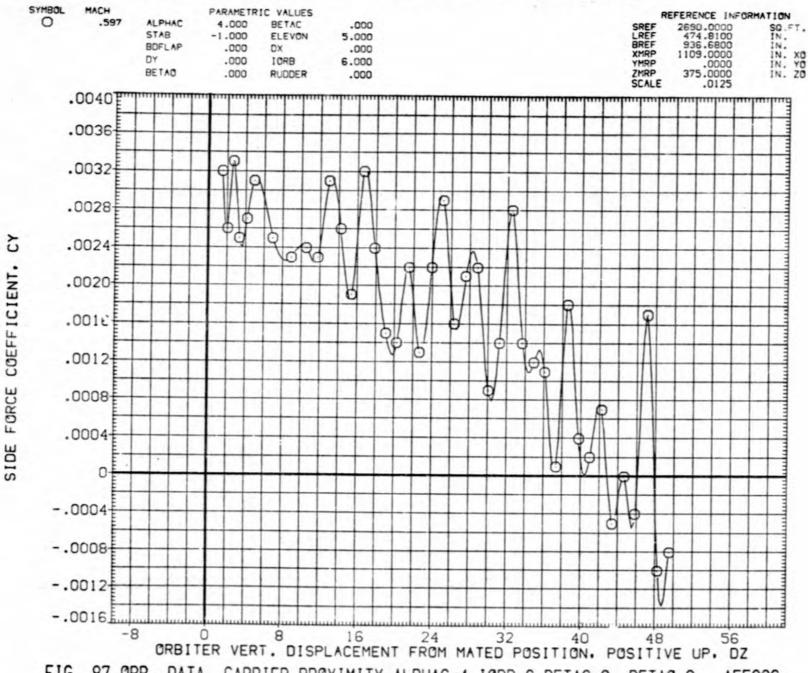


FIG. 87 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=6, BETAC=0, BETAO=0, AFEO96

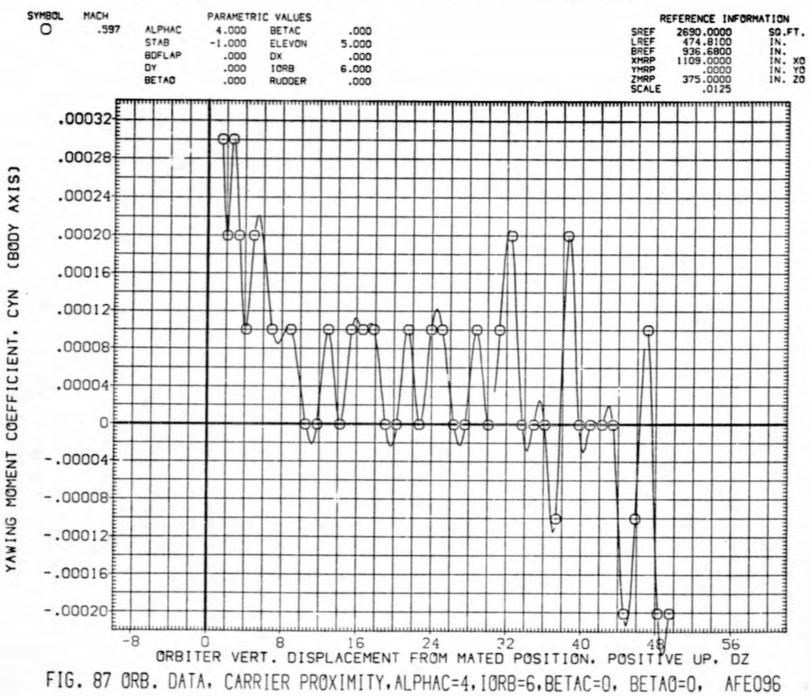
LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE096)



LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE096)



LTV44-559(CA26) 747/1 ATY 02 SI (ORBITER DATA) (AFE096)



LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE096)

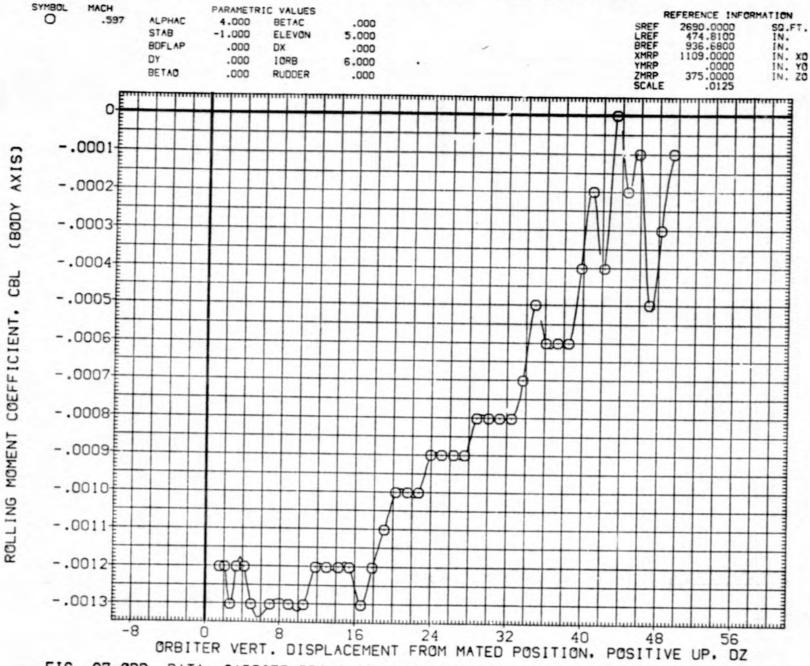
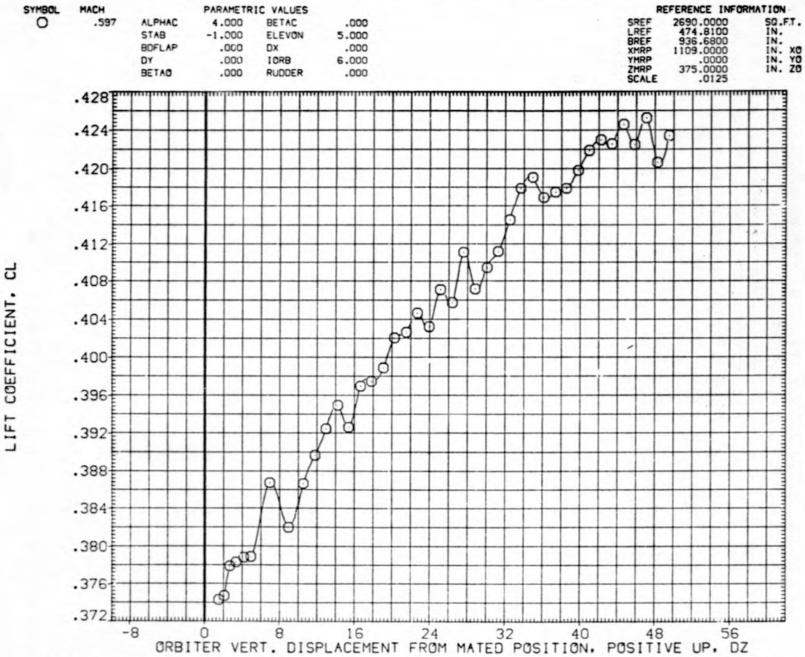


FIG. 87 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=6, BETAC=0, BETAO=0, AFEO96

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE096)



LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE096)

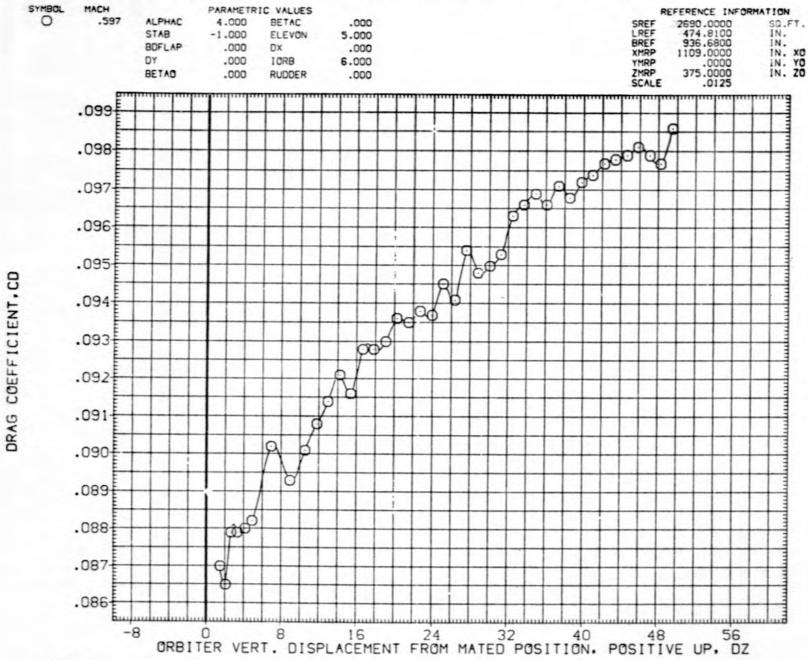
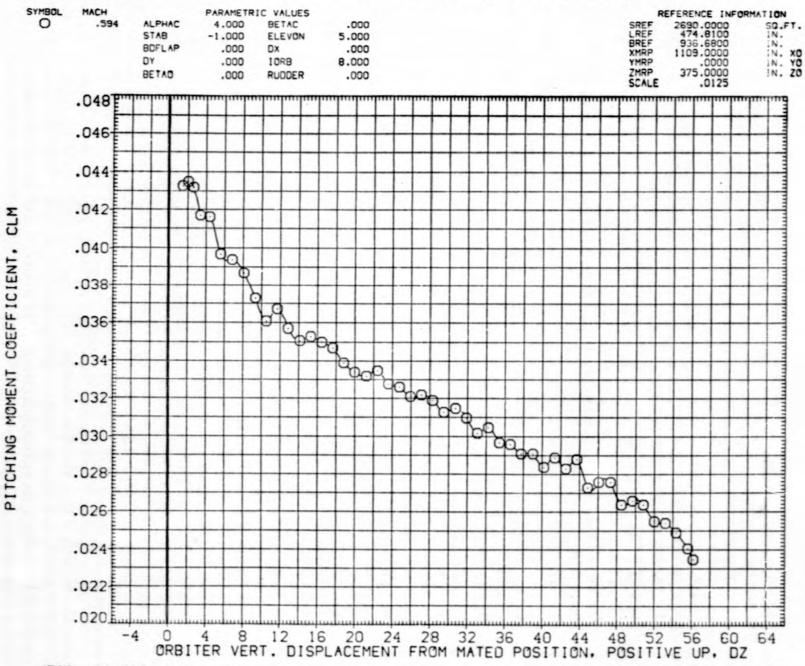


FIG. 87 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=6, BETAC=0, BETAO=0, AFEO96

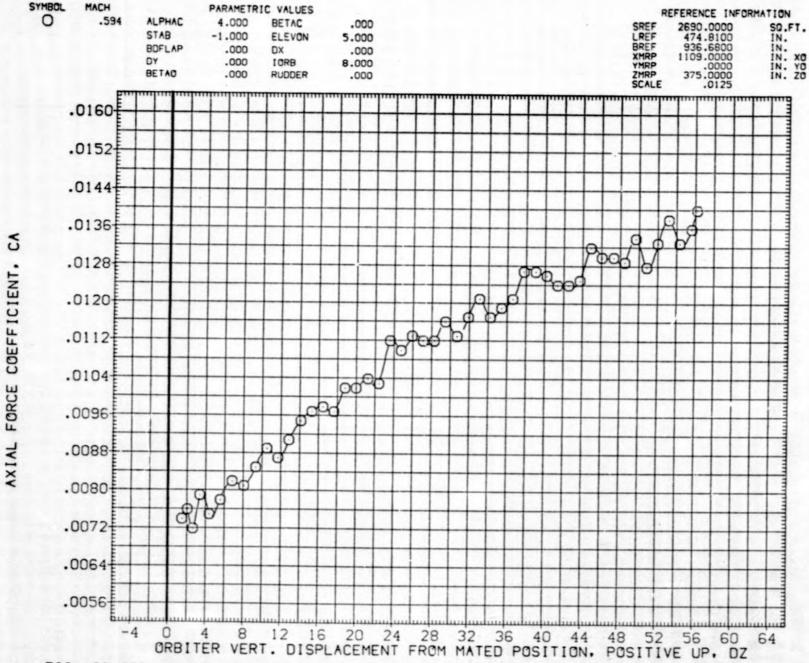
LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE097)

O O	.594	ALPHAC STAB BOFLAP DY BETAO	4.000 -1.000 .000 .000	IC VALUES BETAC ELEVON DX IORB RUDDER	.000 5.000 .000 8.000	···					SREF LREF BREF XMRP YMRP ZMRP ZMRP SCALE	2690.0000 474.8100 936.6800 1109.0000 375.0000 .0125	SO IN IN IN IN
	.556		+++	++++	+++	++	HH	++		-			H
	.552			\Box		+	\Box	#	H		9 8	0	Ħ
	.548				-	#		#		9	110	9/0	
	.544			++++	+	#		\perp	9	3	8		Ħ
	.540	+H			+++	#		P	1	0			H
	.536	+H				18	9 9	30		1			H
	.532					0	18	#		#			
	.528	+			T Ø	9		#		#			
	.524	+								#			
	.520	+		1	900		#			#			1
	.516			930	+++								
	.512	9	2	8	+++		#			#			
	.508		900 1		+++		#			#			
	.504					\Box	#						-

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE097)



LTV44-559(CA26) 747/1 ATY 02 SI (ORBITER DATA) (AFE097)



LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE097)

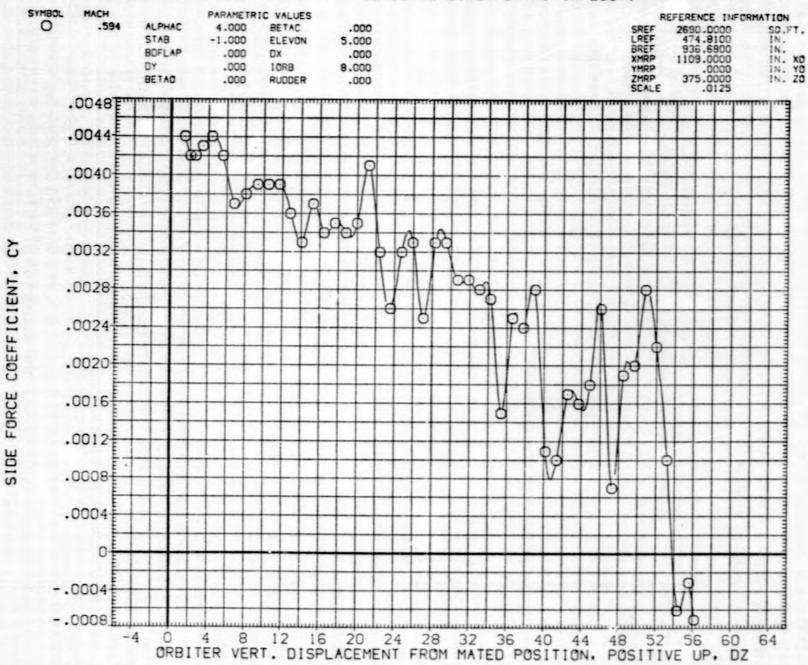


FIG. 88 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=8, BETAC=0, BETAO=0, AFEO97

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE097)

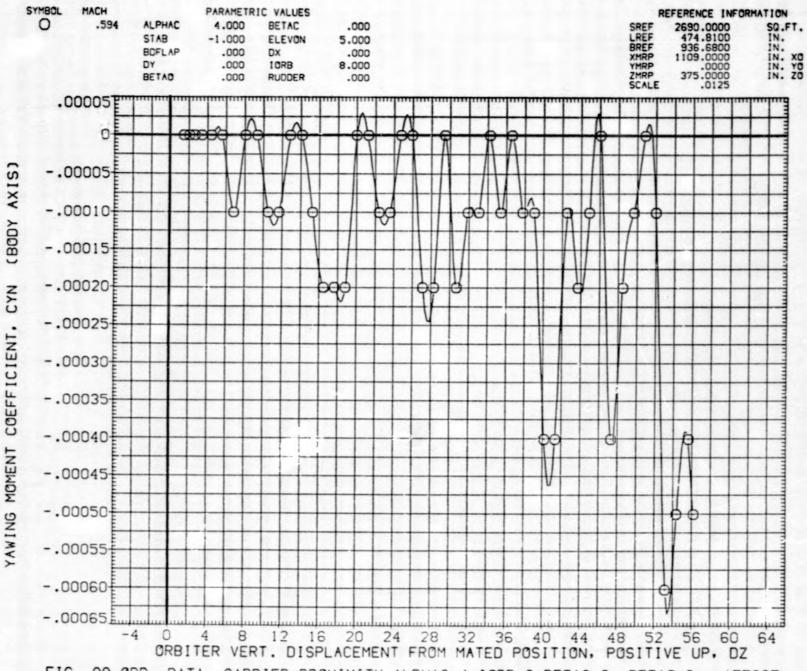


FIG. 88 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=8, BETAC=0, BETAO=0, AFEO97

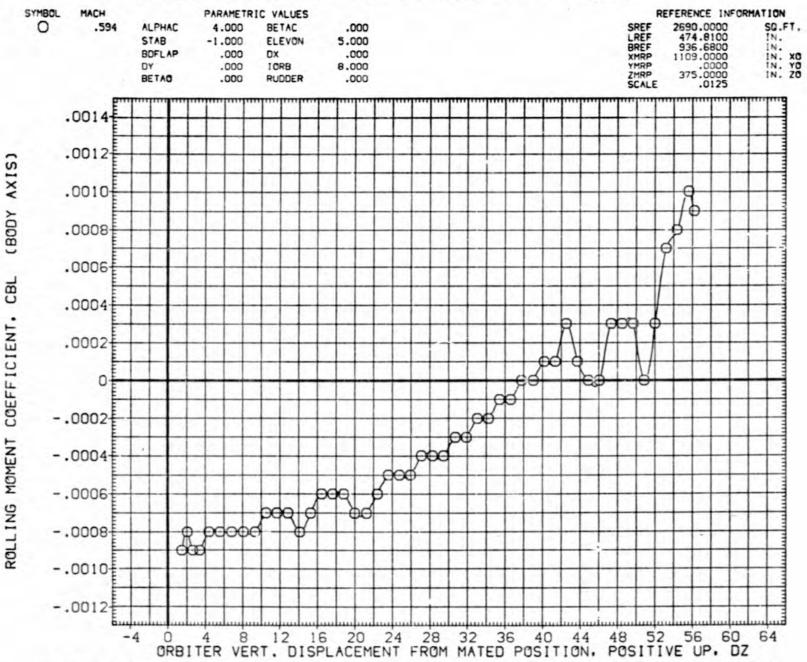
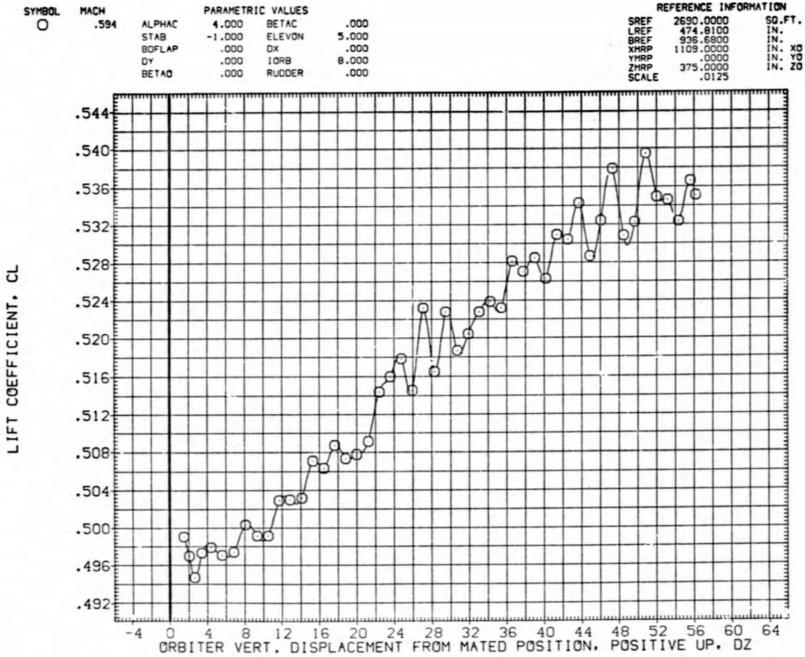


FIG. 88 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4. IORB=8. BETAC=0, BETAO=0, AFEO97

LTV44-559(CA26) 747/1 ATY 02 SI (ORBITER DATA) (AFE097)

0



LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE097)

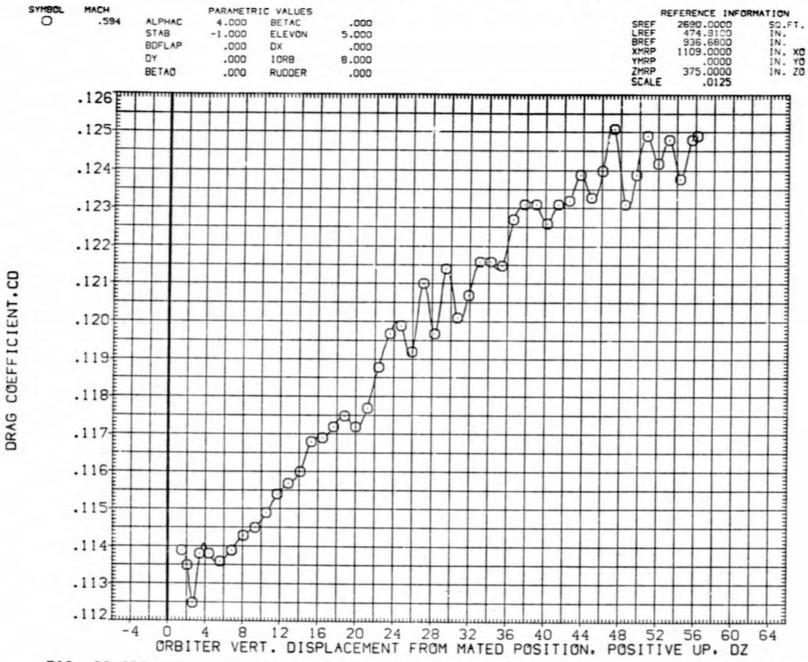
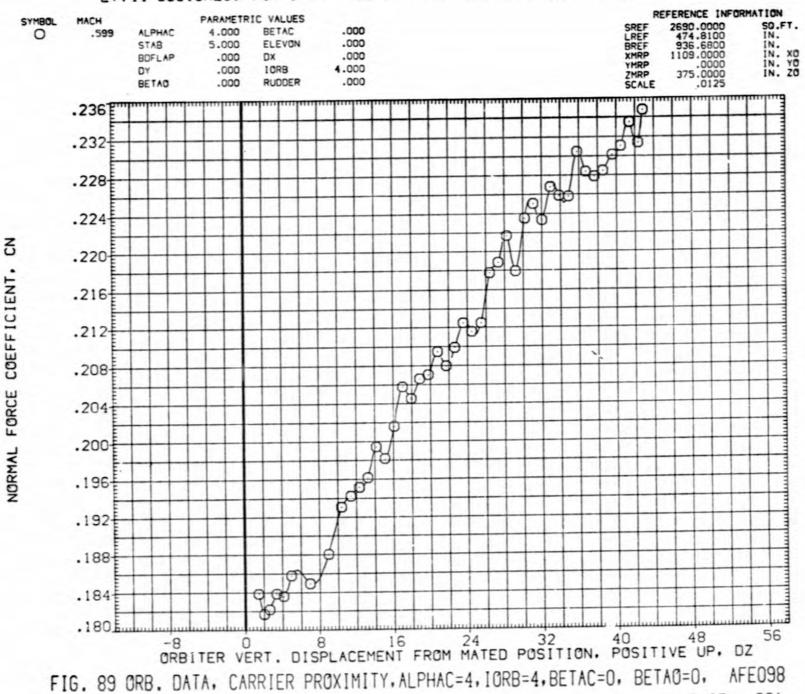


FIG. 88 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=8, BETAC=0, BETAO=0, AFEO97

LTV44-559(CA26) 747/1 ATY 02 SI (ORBITER DATA) (AFE098)



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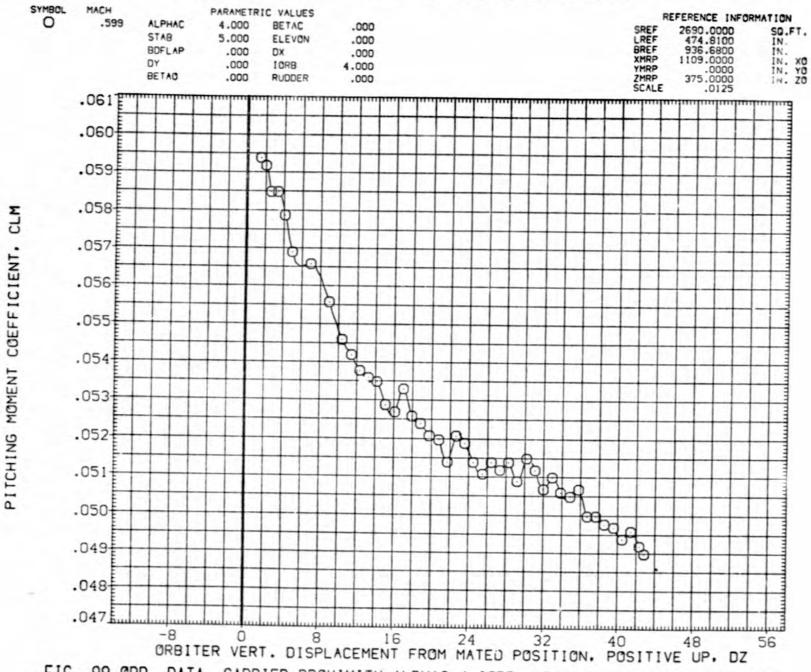


FIG. 89 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=4, BETAC=0, BETAO=0, AFEO98

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LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE098)

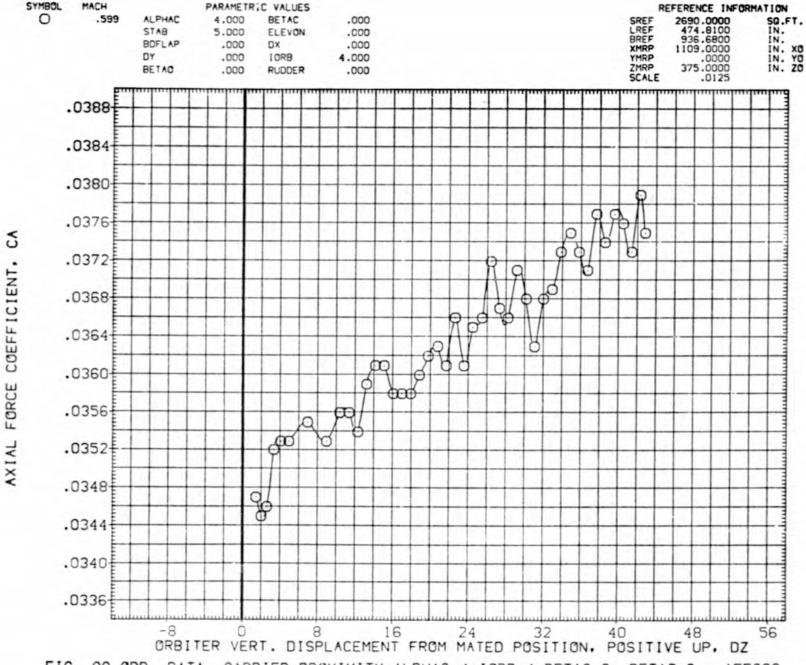


FIG. 89 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=4, BETAC=0, BETAO=0, AFEO98

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE098)

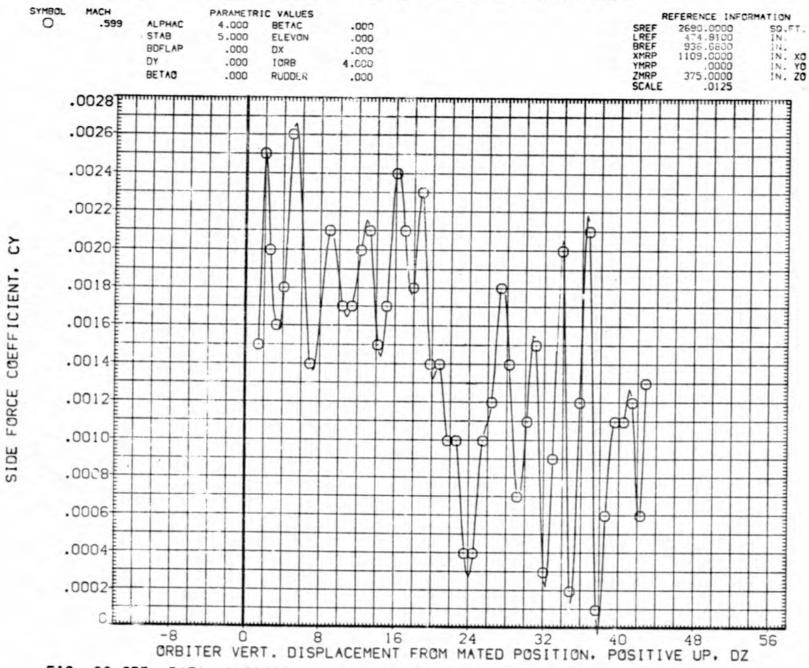
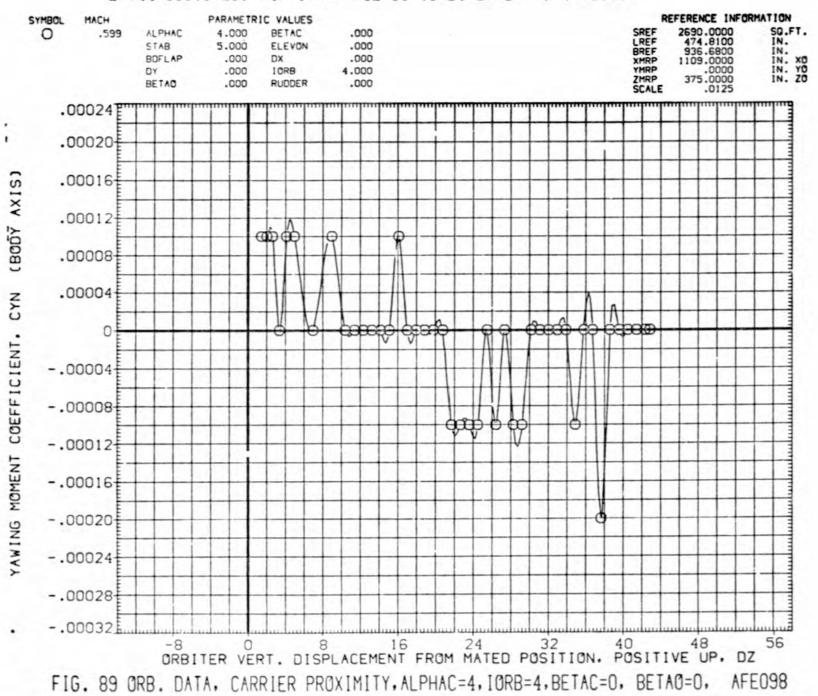


FIG. 89 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=4, BETAC=0, BETAO=0, AFEO98

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE098)



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LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE098)

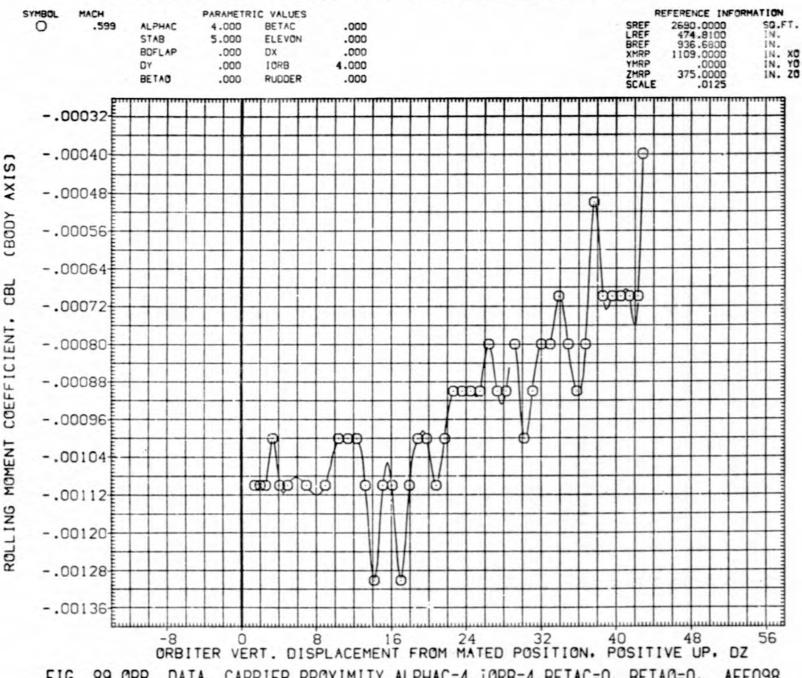


FIG. 89 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=4, BETAC=0, BETAO=0, AFEO98

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE098)

-

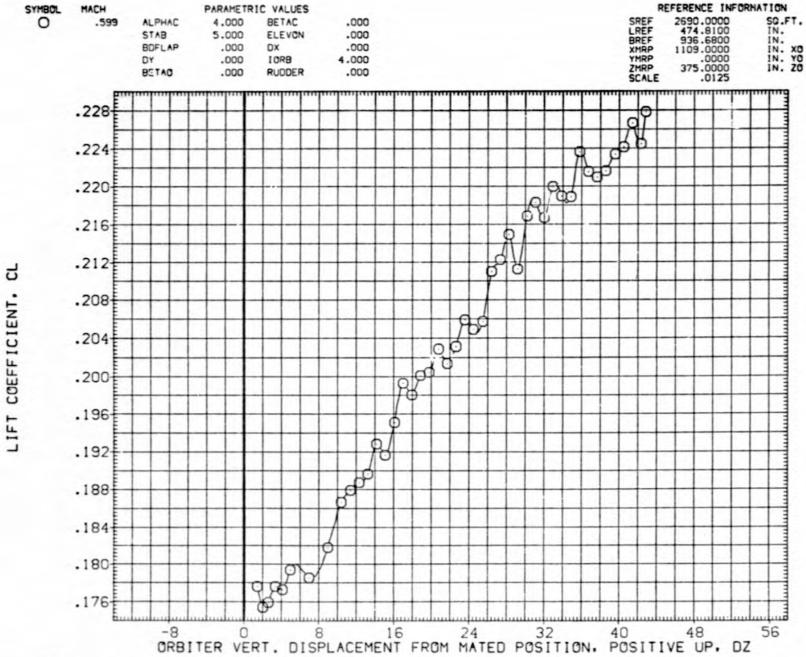


FIG. 89 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=4, BETAC=0, BETAO=0, AFEO98

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE098)

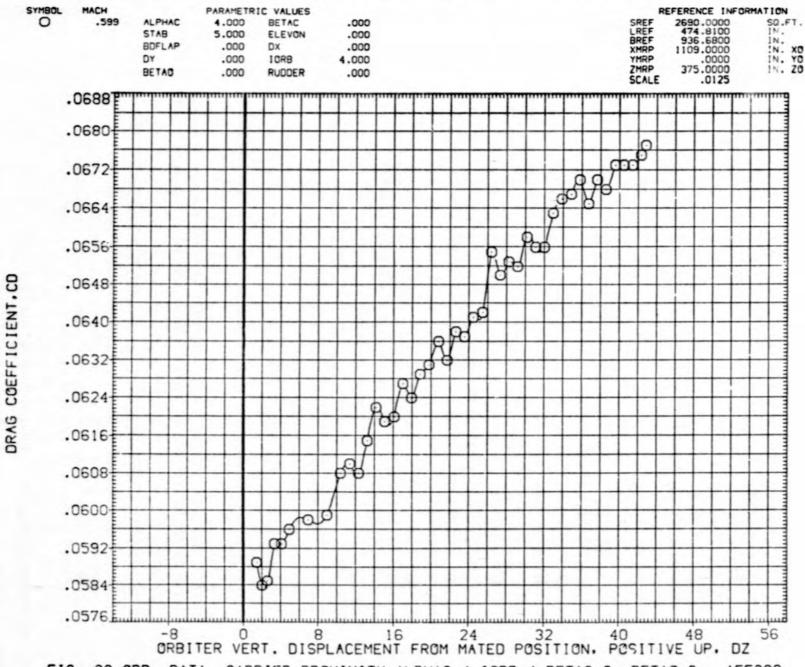


FIG. 89 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=4, BETAC=0, BETAO=0, AFEO98

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE099)

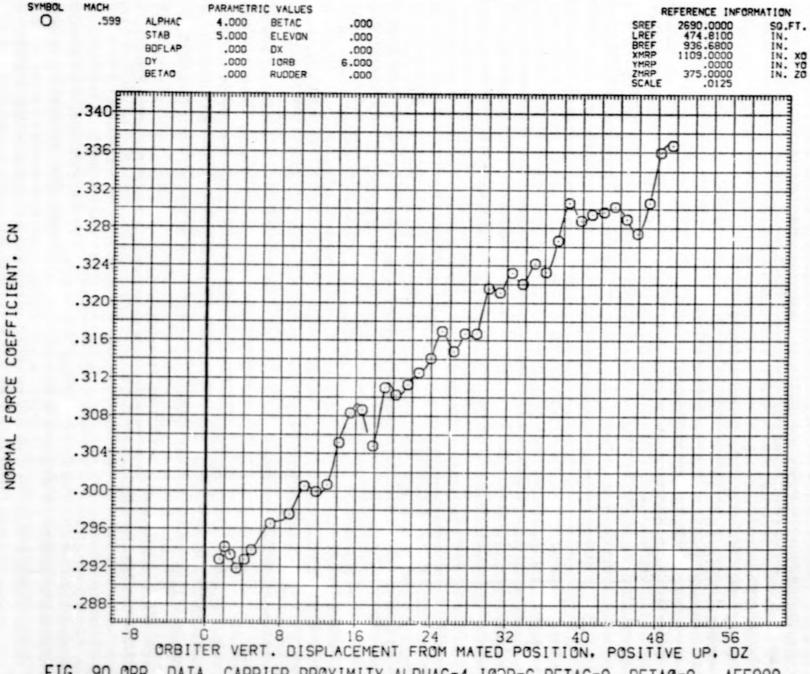


FIG. 90 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, ICRB=6, BETAC=0, BETAO=0, AFEO99

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE099)

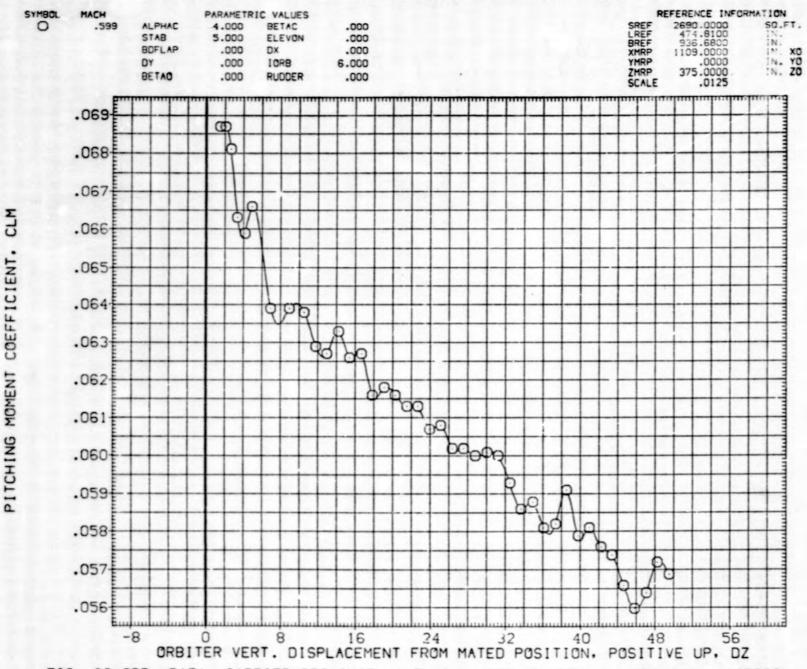


FIG. 90 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=6, BETAC=0, BETAO=0, AFEO99

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LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE099)

0

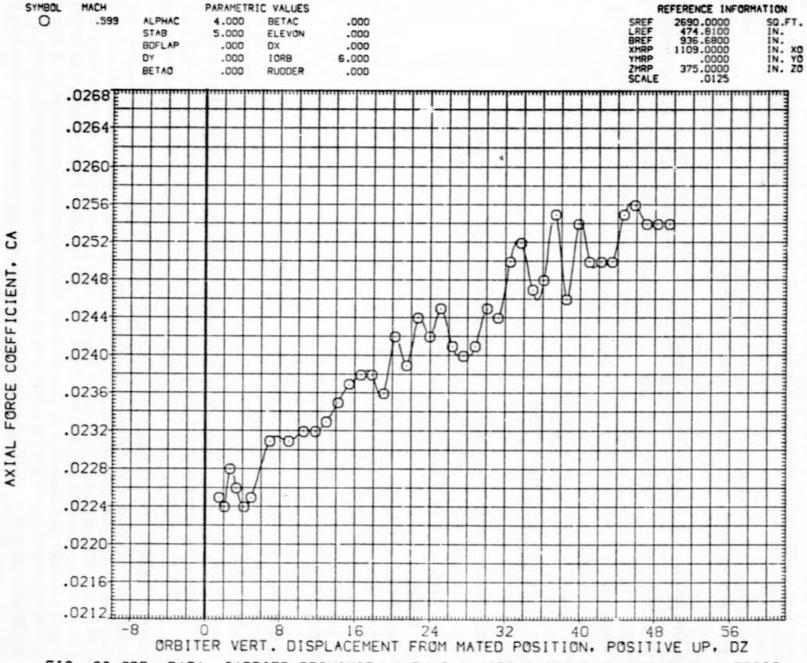


FIG. 90 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=6, BETAC=0, BETAO=0, AFEO99

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE099)

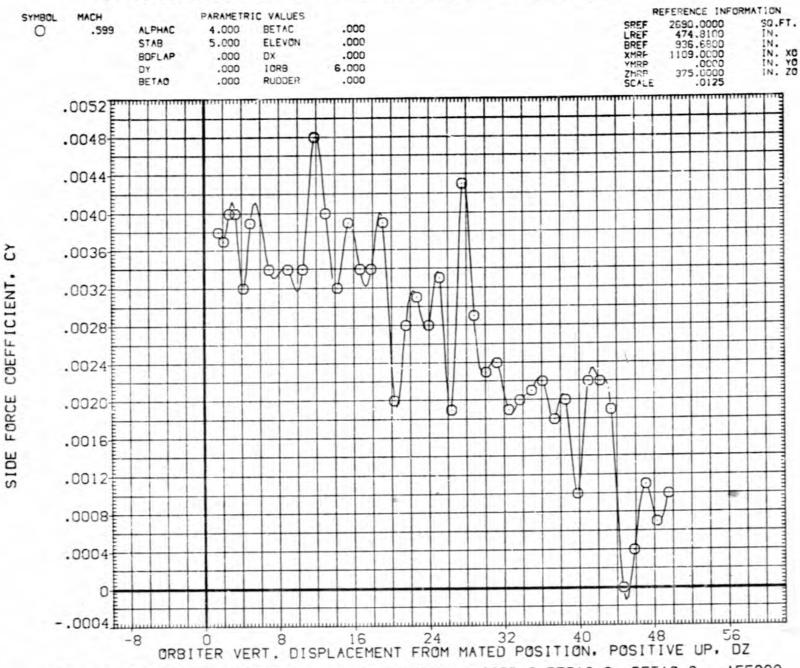
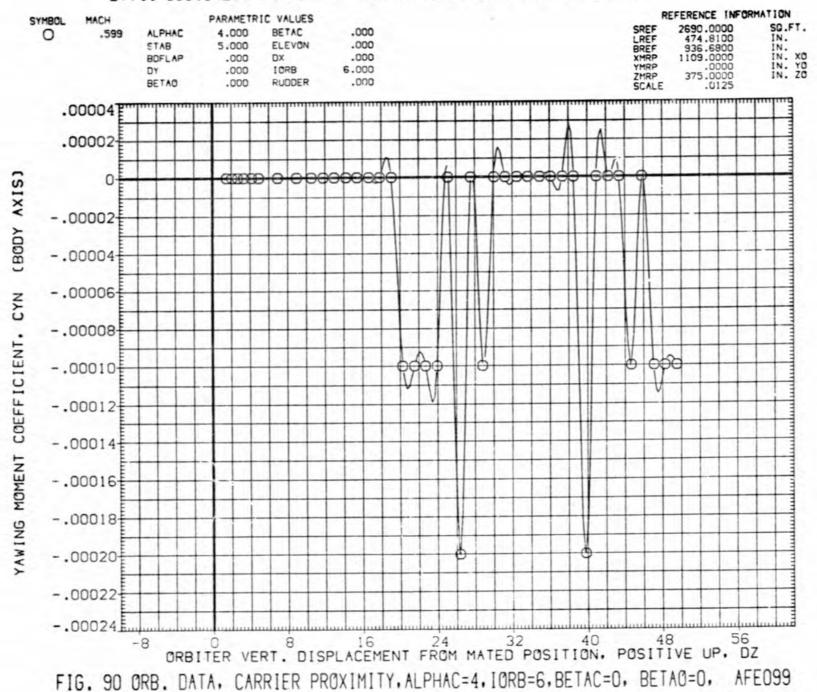


FIG. 90 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=6, BETAC=0, BETAO=0, AFEO99

0

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE099)



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LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE099)

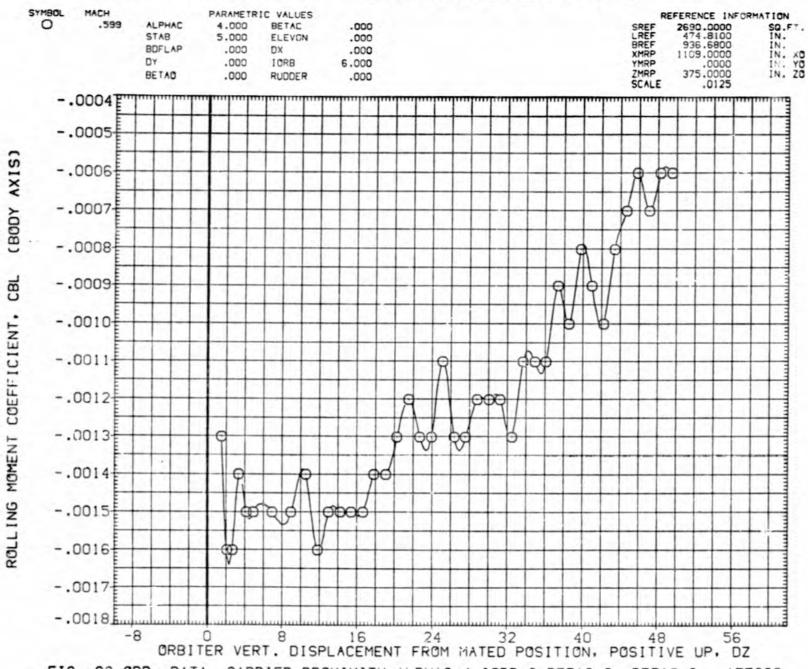


FIG. 90 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=6, BETAC=0, BETAO=0, AFEO99

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE099)

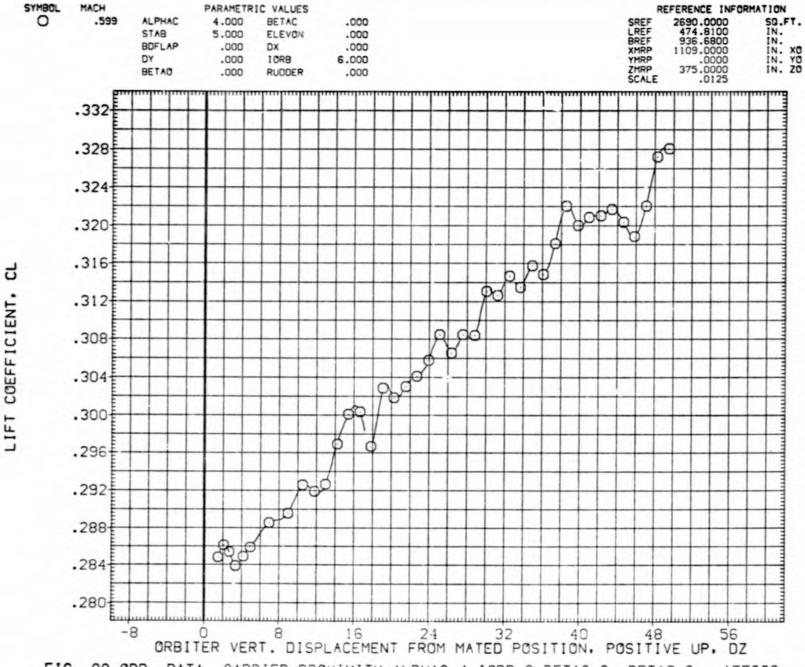


FIG. 90 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=6, BETAC=0, BETAO=0, AFEO99

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE099)

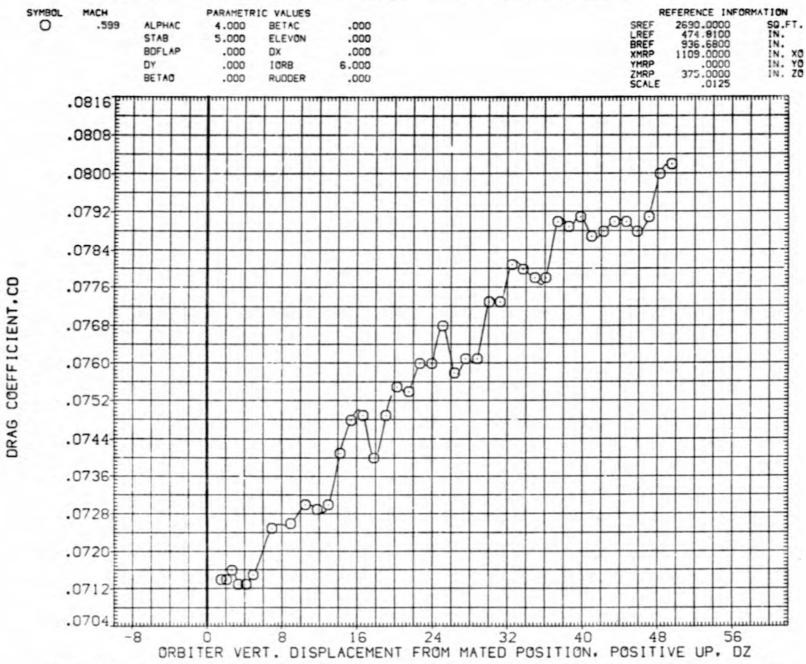


FIG. 90 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=6, BETAC=0, BETAO=0, AFEO99

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE100)

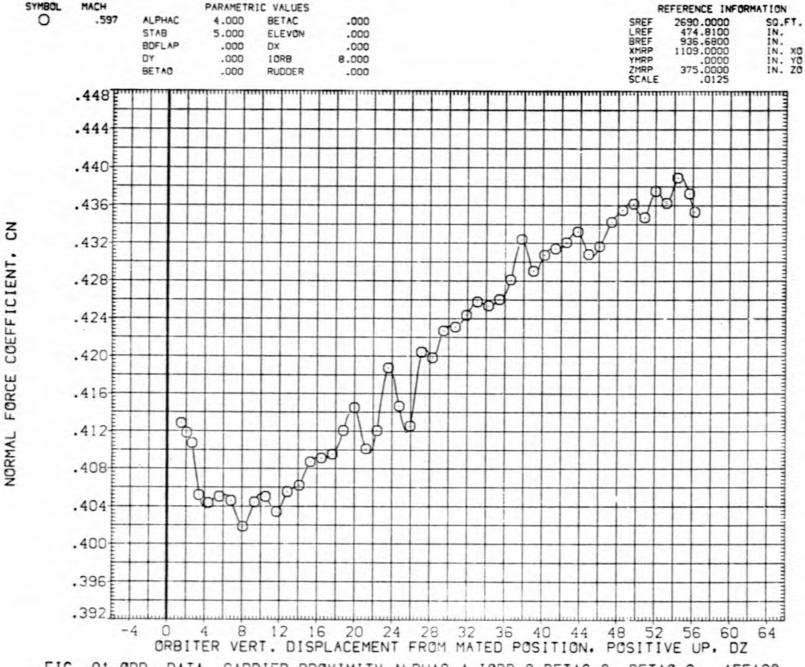


FIG. 91 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=8, BETAC=0, BETAO=0, AFE100

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE100)

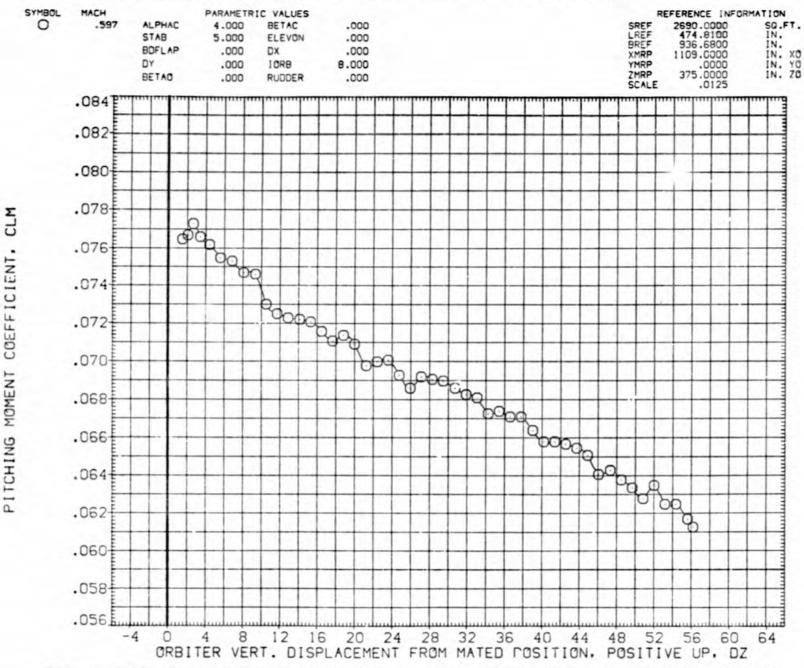


FIG. 91 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=8, BETAC=0, BETAO=0, AFE100

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE100)

0

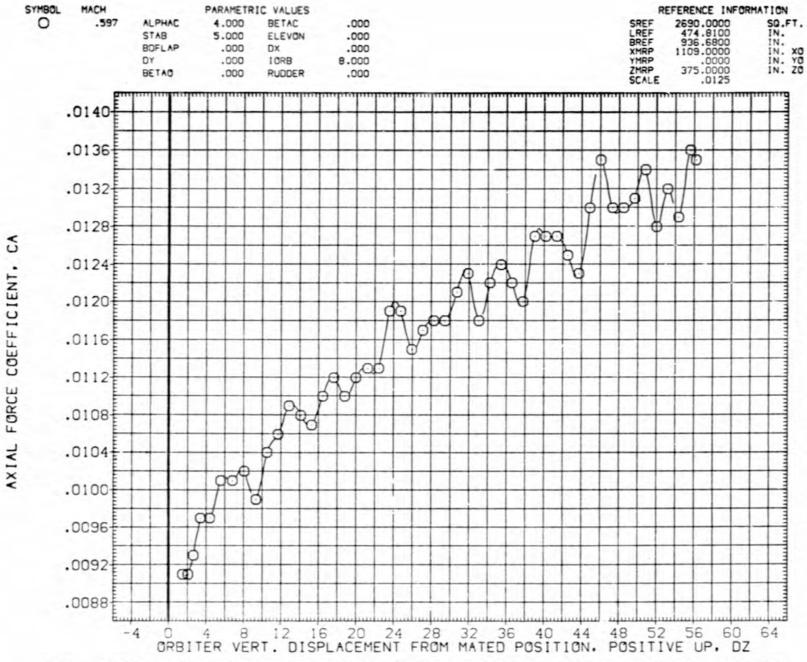


FIG. 91 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=8, BETAC=0, BETAO=0, AFE100

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE100)

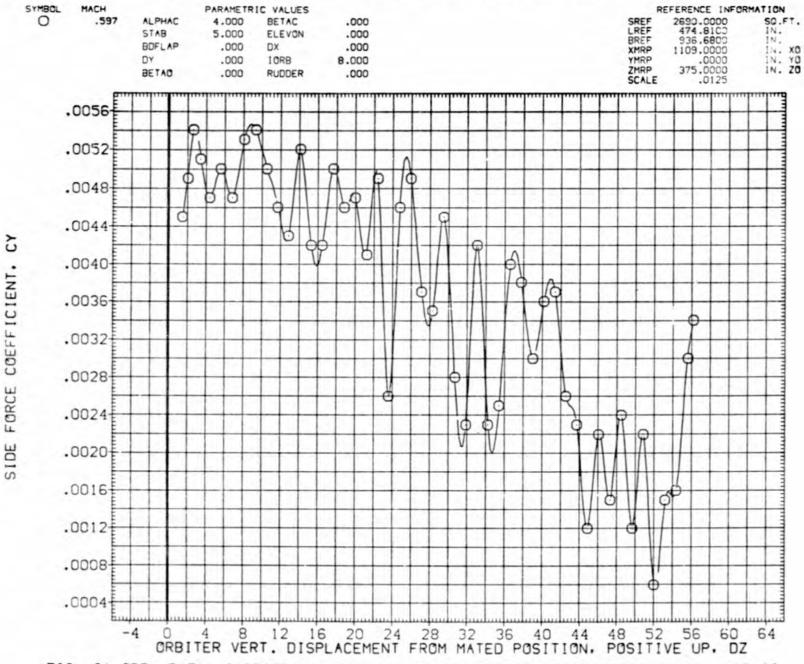


FIG. 91 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=8, BETAC=0, BETAO=0, AFE100

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE100)

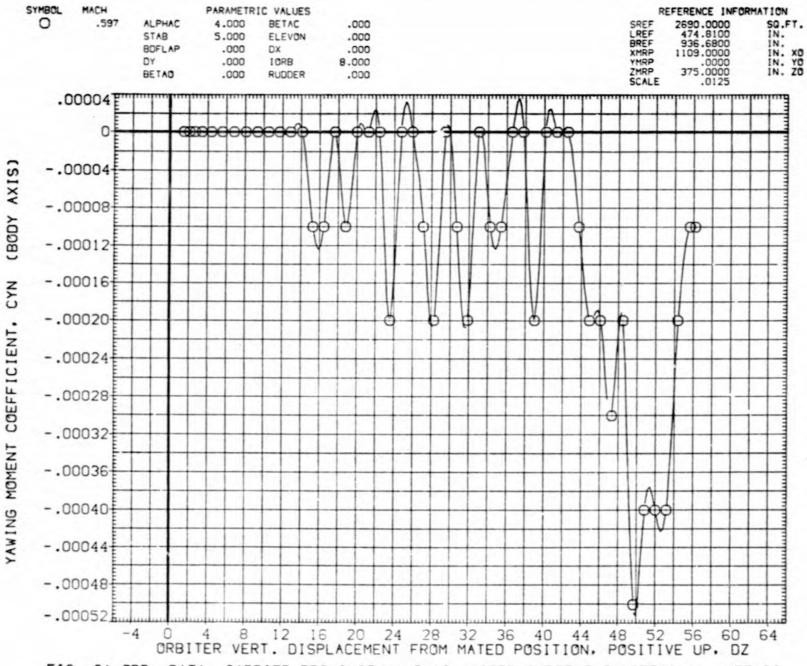


FIG. 91 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=8, BETAC=0, BETAO=0, AFE100

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE100)

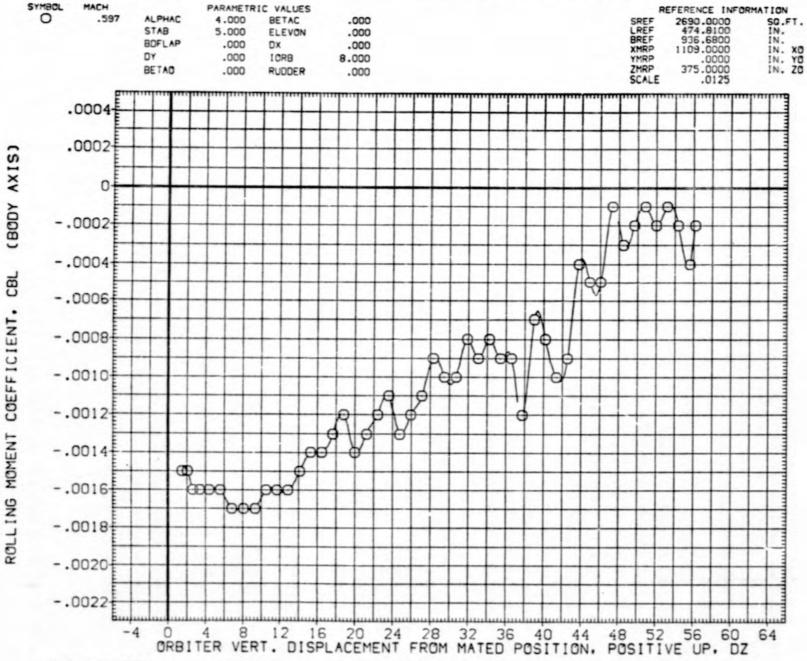


FIG. 91 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=8, BETAC=0, BETAO=0, AFE100

LTV44-559(CA26) 747/1 ATY 02 SI (ORBITER DATA) (AFE100)

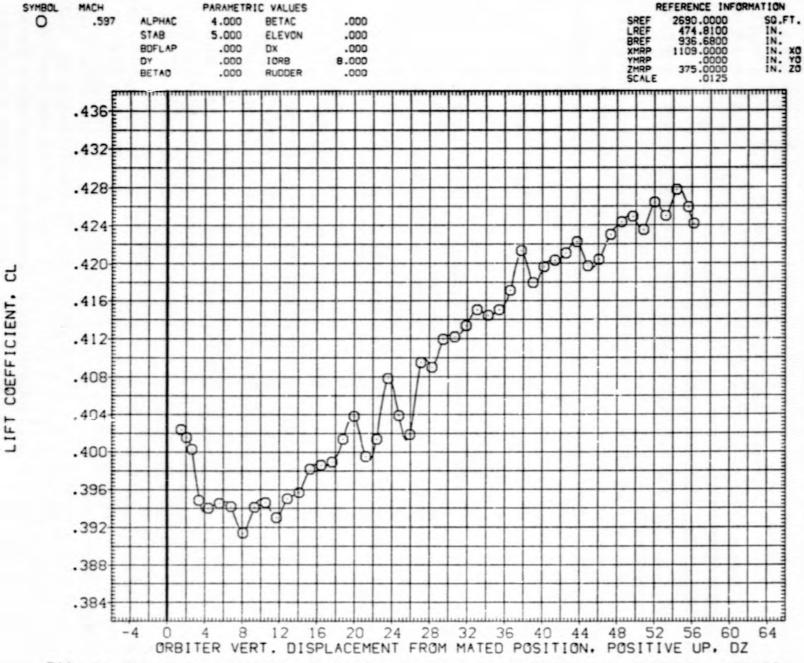


FIG. 91 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=8, BETAC=0, BETAO=0, AFE100

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE100)

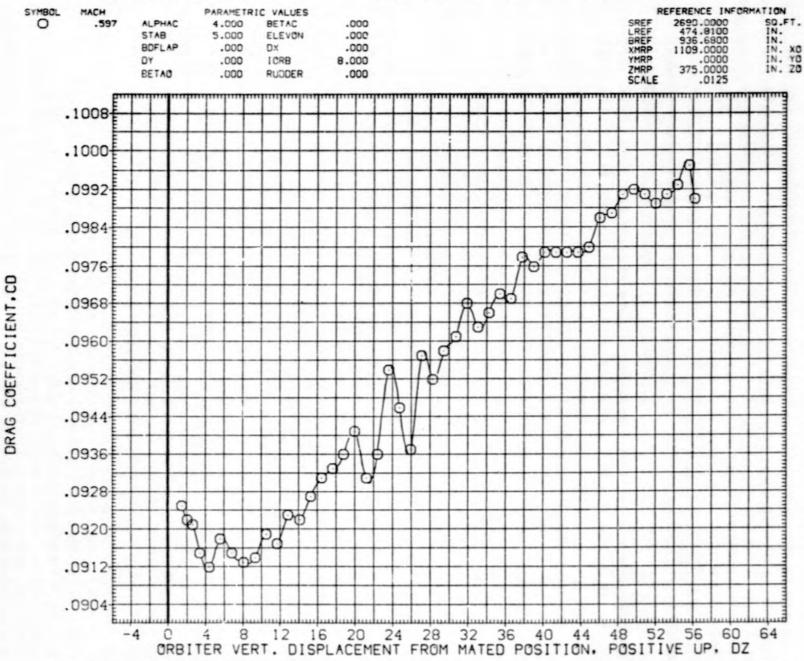


FIG. 91 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=8, BETAC=0, BETAO=0, AFE100

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE101)

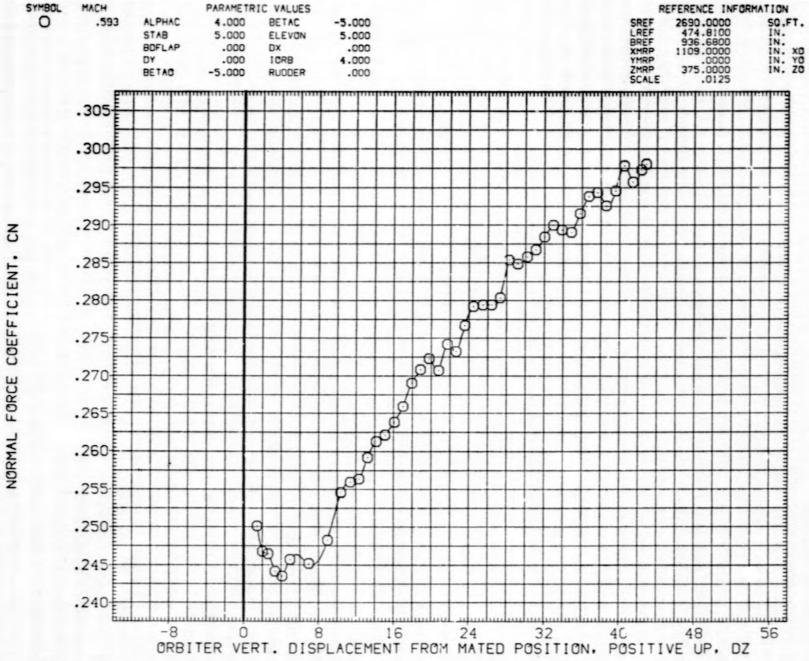


FIG. 92 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=4, BETAC=-5, BETAO=-5, AFE101

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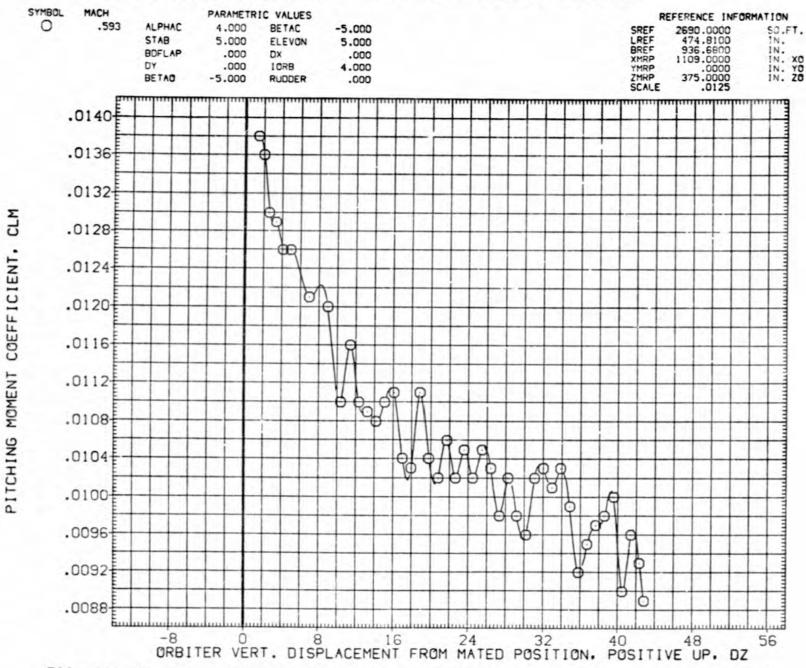


FIG. 92 ORB. DATA, CARRIER PROXIMITY. ALPHAC=4, IORB=4, BETAC=-5, BETAO=-5, AFE101

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE101)

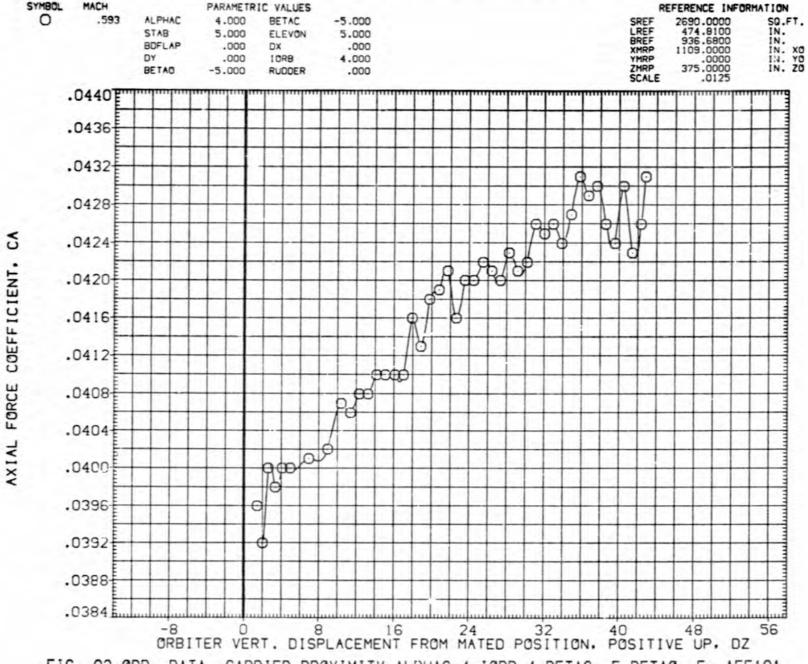


FIG. 92 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=4, BETAC=-5, BETAO=-5, AFE101

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE101)

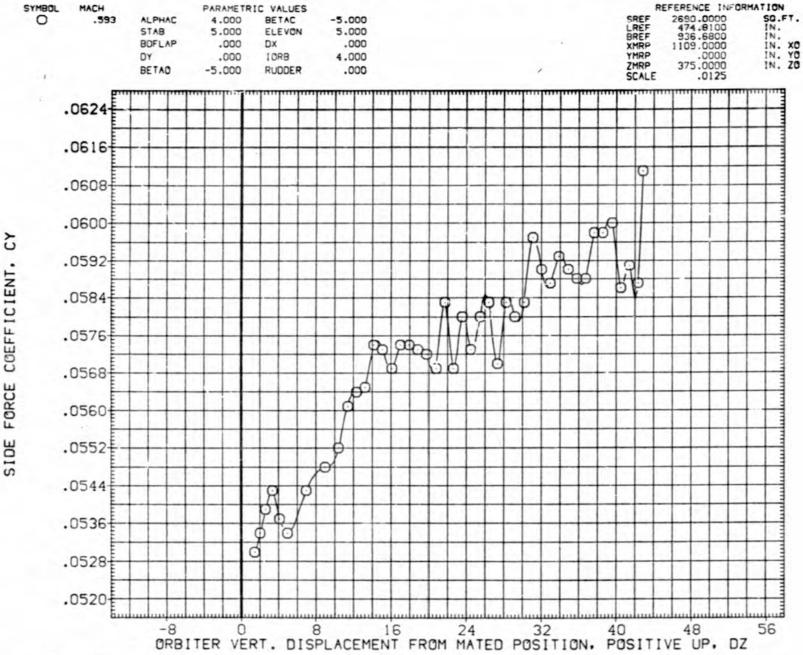


FIG. 92 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=4, BETAC=-5, BETAO=-5, AFE101

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE101)

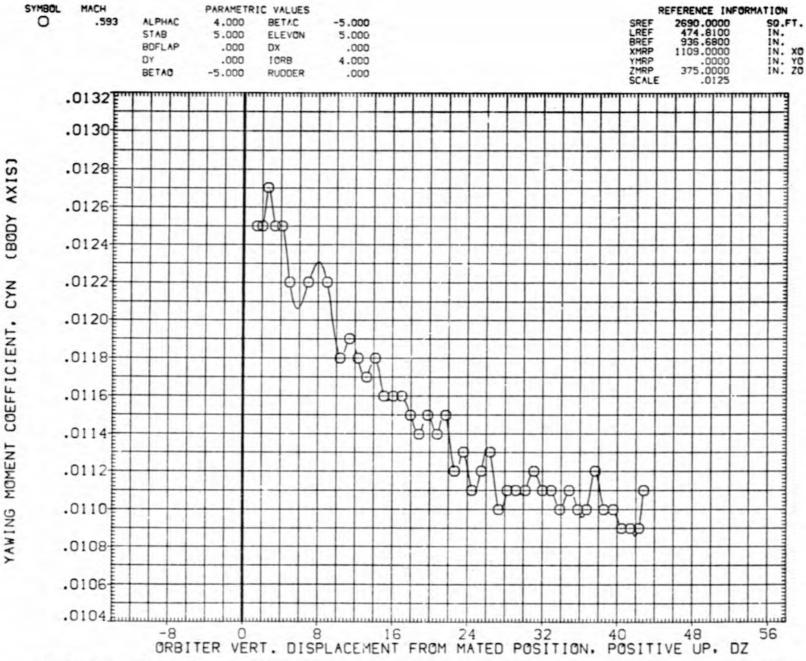


FIG. 92 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, !ORB=4, BETAC=-5, BETAO=-5, AFE101

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE101)

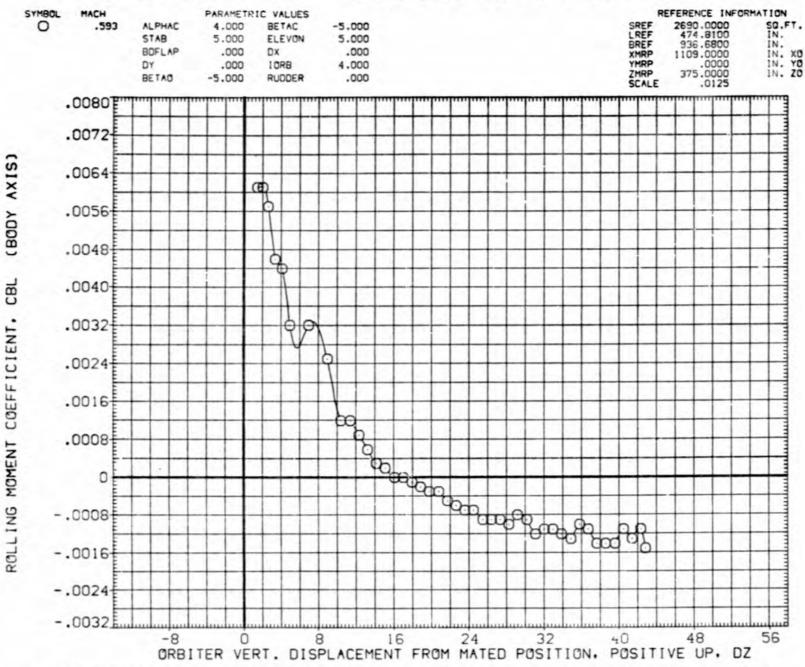


FIG. 92 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=4, BETAC=-5, BETAO=-5, AFE101

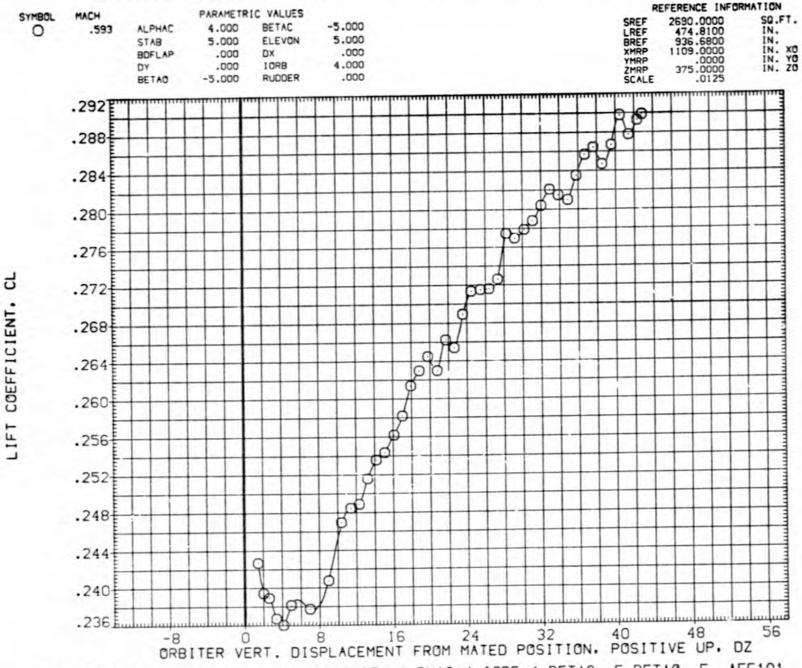


FIG. 92 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=4, BETAC=-5, BETAO=-5, AFE101

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE101)

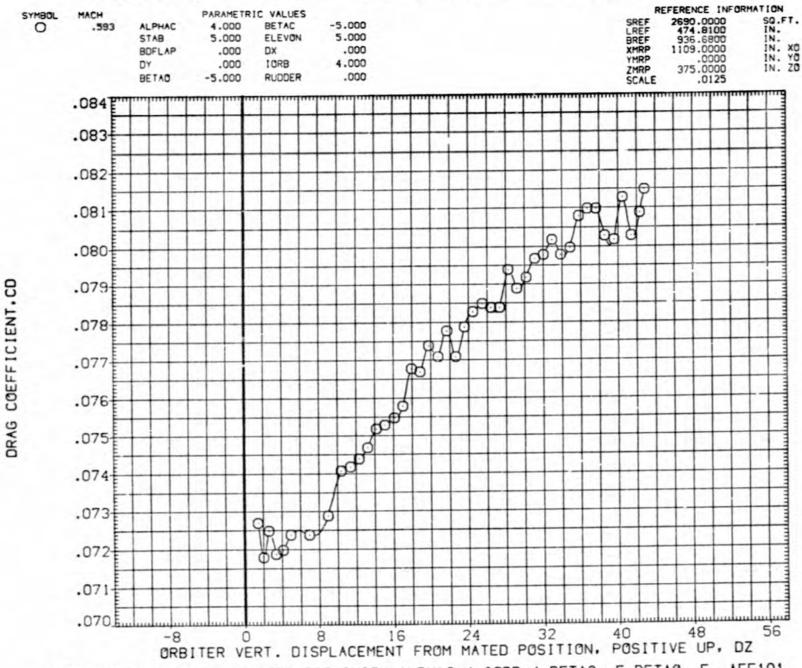


FIG. 92 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=4, BETAC=-5, BETAO=-5, AFE101

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE102)

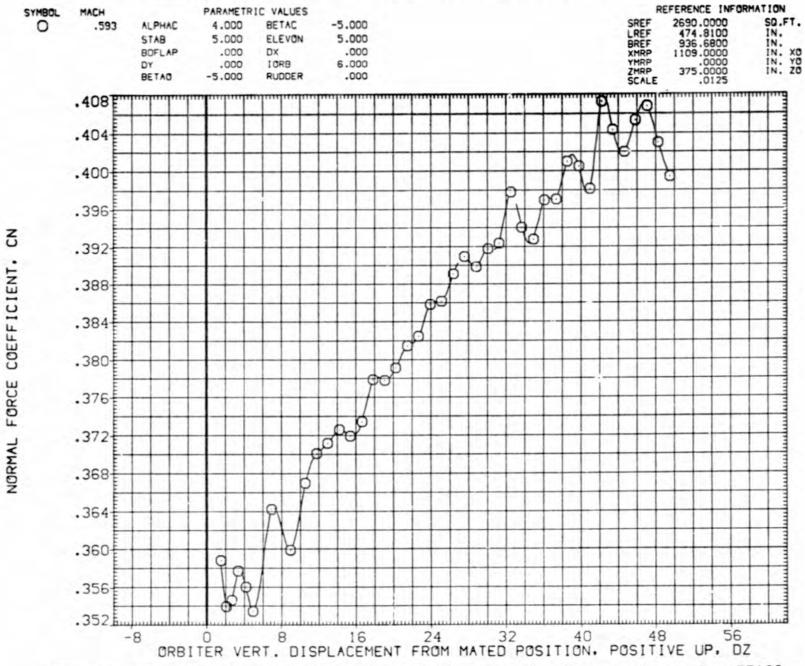


FIG. 93 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=6, BETAC=-5, BETAO=-5, AFE102

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE102)

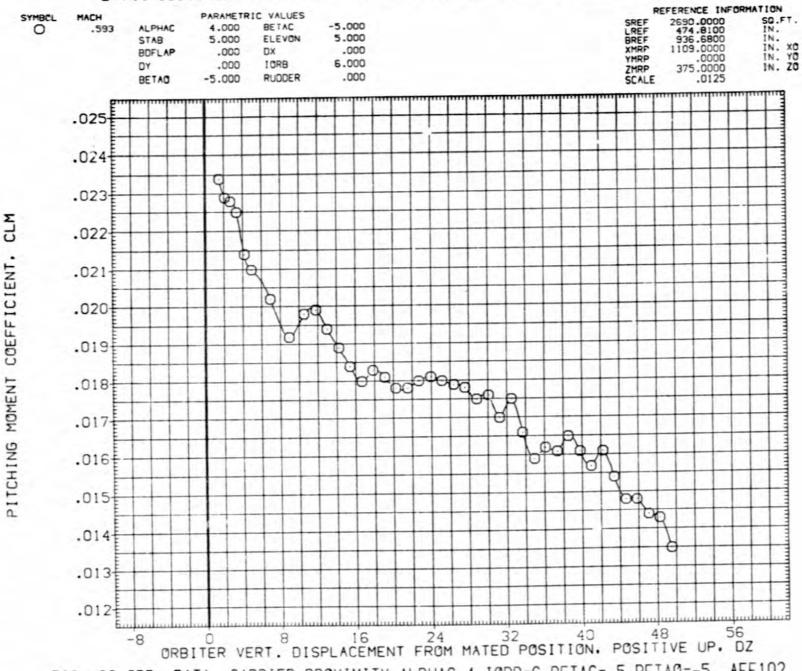
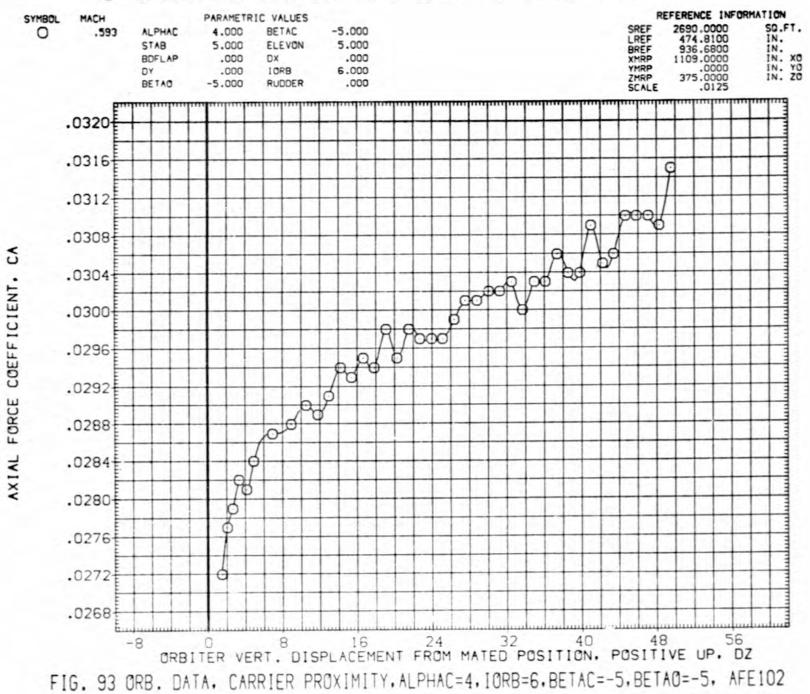


FIG. 93 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=6, BETAC=-5, BETAO=-5, AFE102

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE102)

0



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LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE102)

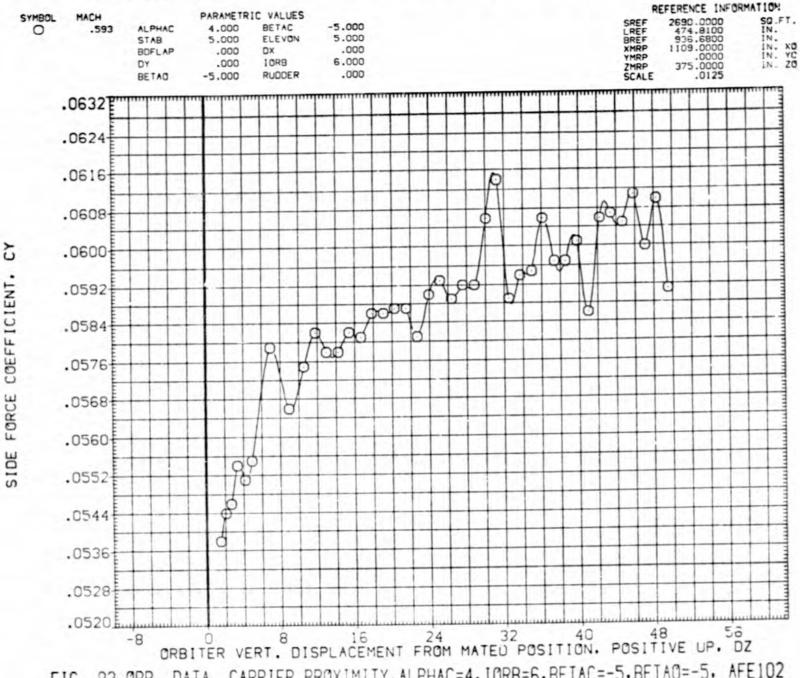


FIG. 93 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=6, BETAC=-5, BETAO=-5, AFE102 PAGE 716

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE102)

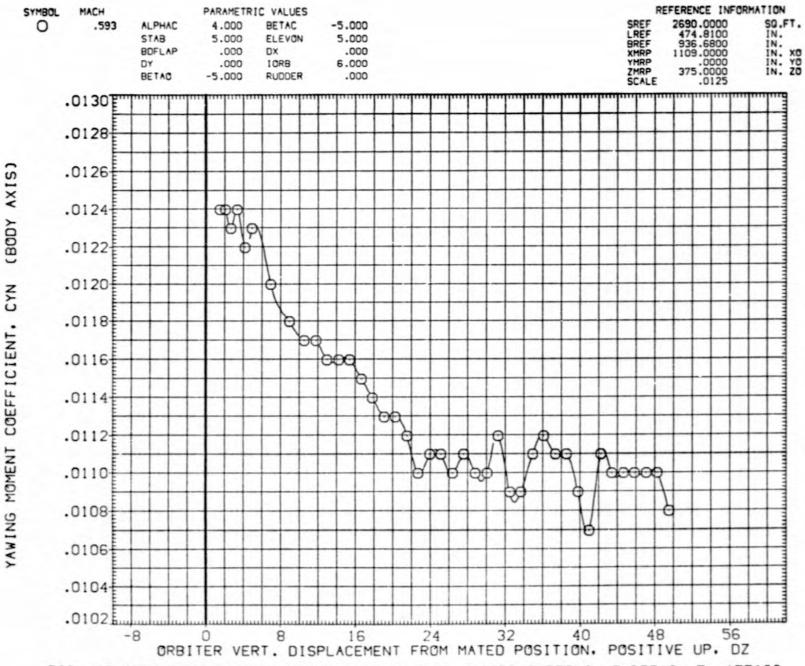


FIG. 93 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=6, BETAC=-5, BETAO=-5, AFE102

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE102)

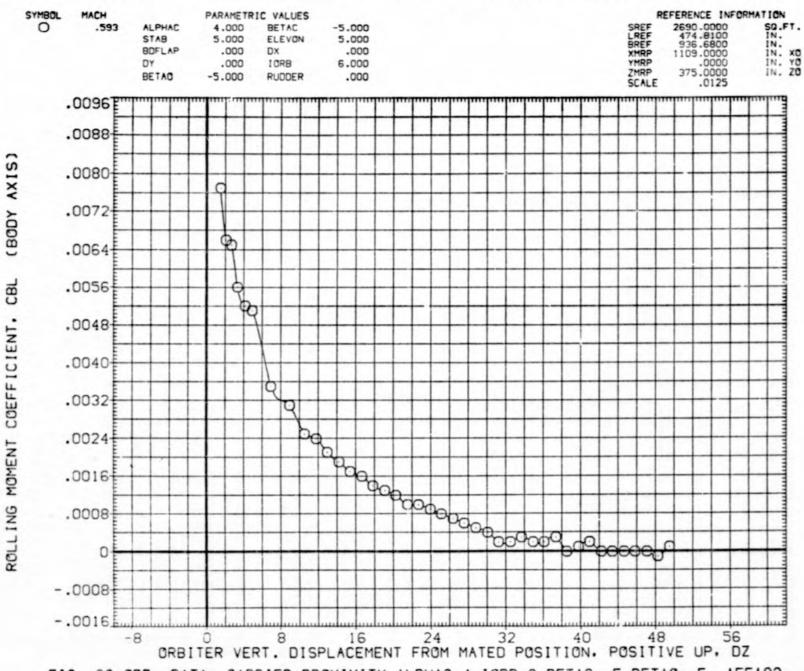


FIG. 93 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=6, BETAC=-5, BETAO=-5, AFE102

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE102)

O O	MACH .593	ALPHAC STAB BDFLAP DY BETAO	4.000 5.000 .000 .000 -5.000	BETAC BETAC ELEVON DX 10RB RUDDER	-5.000 5.000 .000 6.000							SREF LREF BREF XMRP YMRP ZMRP SCALE	269 47 93 110	0.0000 4.8100 6.6800 9.0000 .0000 5.0000	SC IN
	.396										9	89			1
	.392									20	7	3	7		1
	.388							9	00	- V			b		+
	.384						\pm	1		+					+
	.380						g o	pó				-			+
	.376					1	4			-					1
	.372					90				-					1
	.368				9	9				-					+
	.364														+
	.360			11/8	g q					+		-			+
	.356			a b			-								1
	.352			M											+
	.348		98							+					1
	.344		- PI												+

FIG. 93 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=6, BETAC=-5, BETAO=-5, AFE102

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE102)

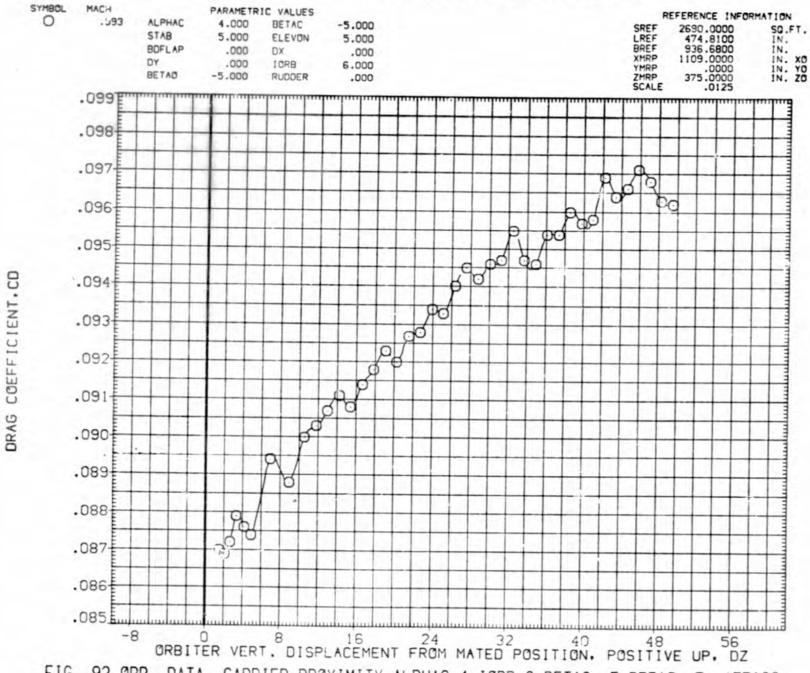


FIG. 93 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=6, BETAC=-5, BETAO=-5, AFE102

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE103)

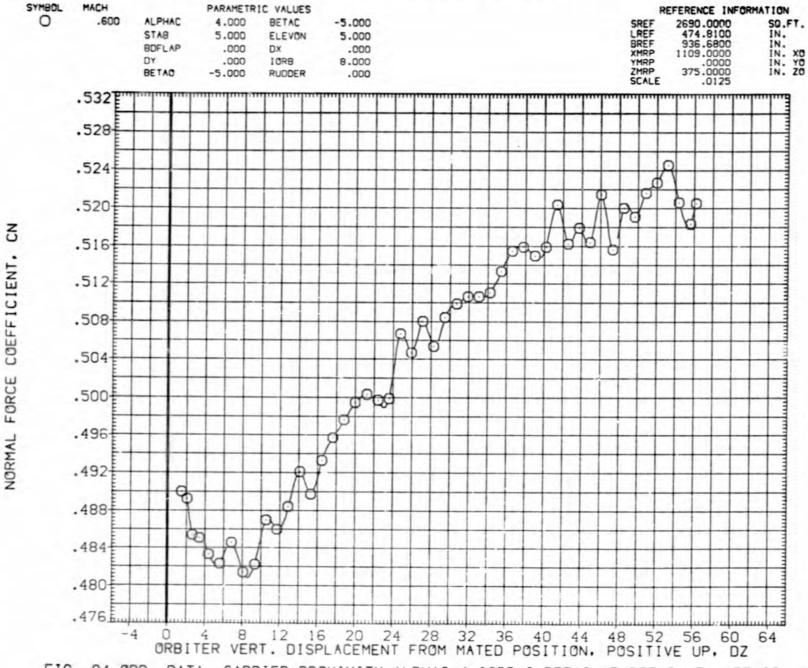


FIG. 94 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=8, BETAC=-5, BETAO=-5, AFE103

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE103)

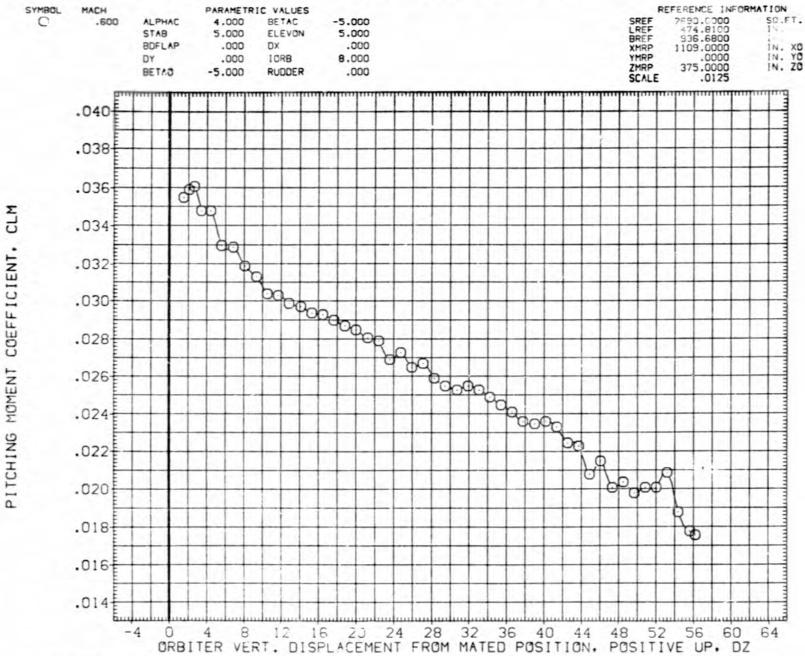


FIG. 94 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=8, BETAC=-5, BETAO=-5, AFE103

F-9

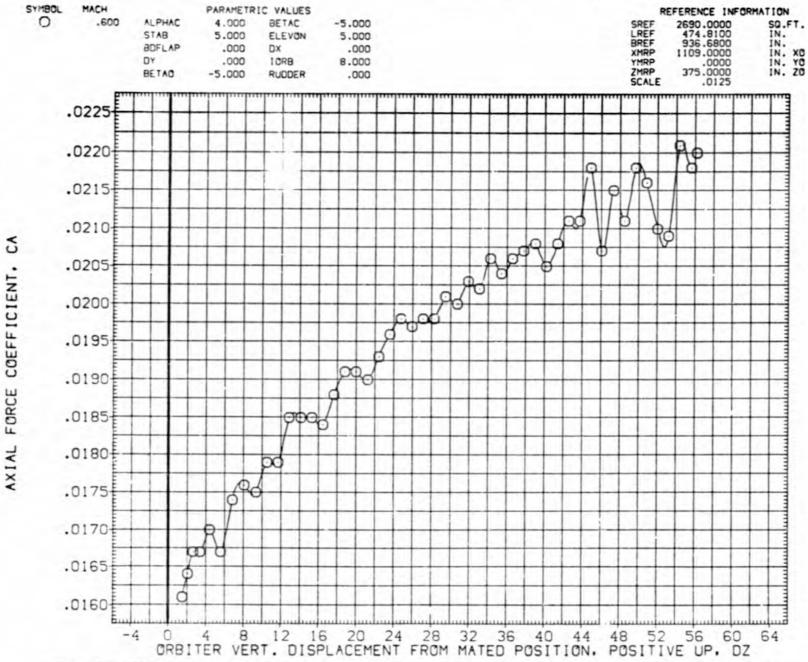


FIG. 94 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=8, BETAC=-5, BETAO=-5, AFE103

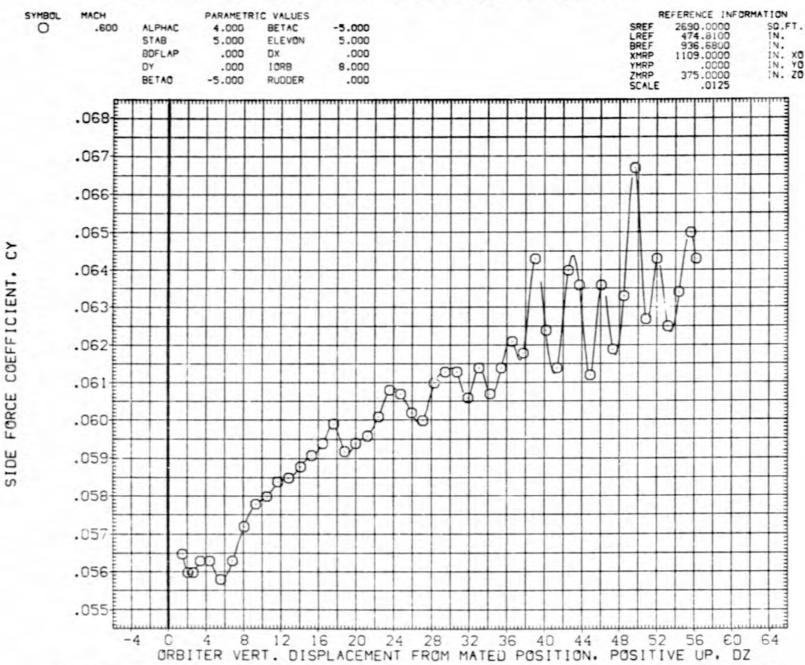


FIG. 94 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=8, BETAC=-5, BETAO=-5, AFE103

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE103)

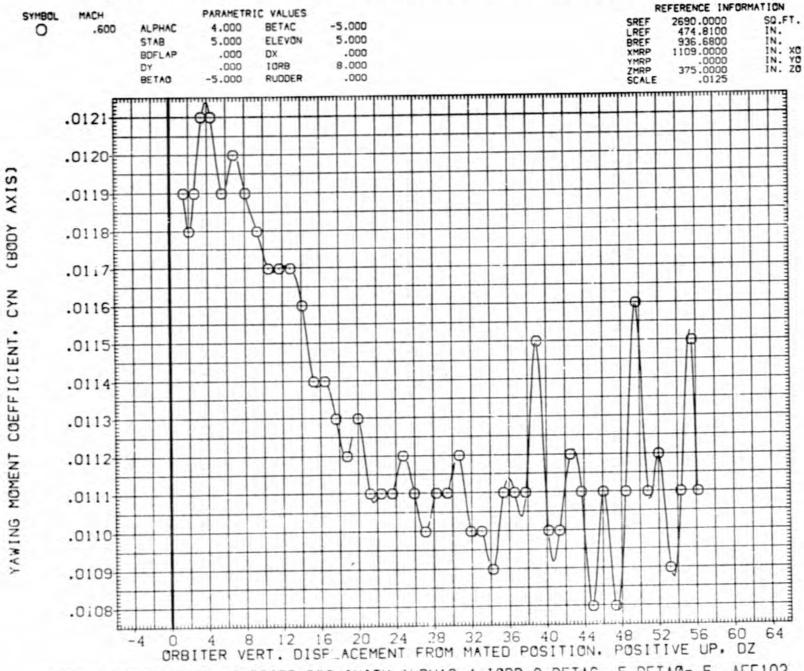


FIG. 94 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4.10RB=8.BETAC=-5.BETAO=-5, AFE103

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE103)

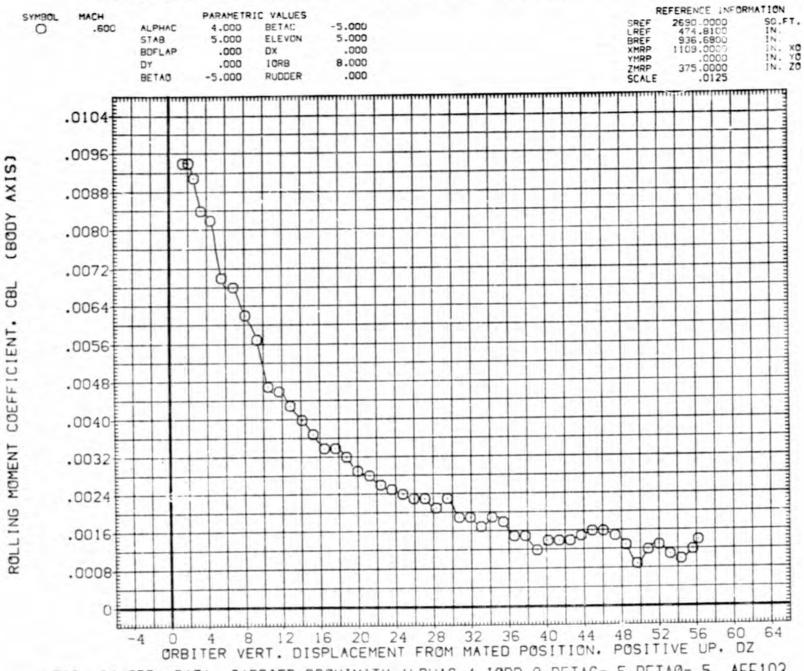


FIG. 94 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=8, BETAC=-5, BETAO=-5, AFE103

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LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE103)

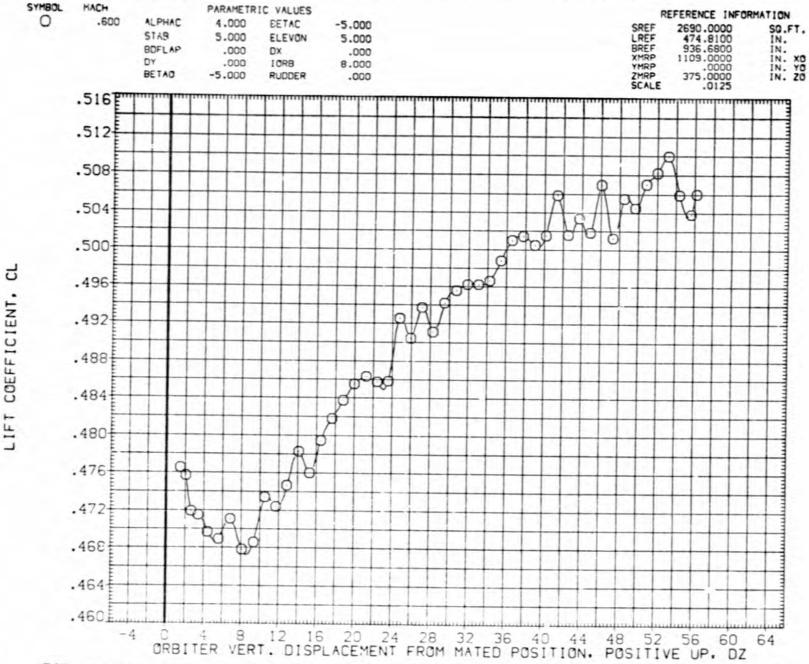


FIG. 94 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=8, BETAC=-5, BETAO=-5, AFE103

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE103)

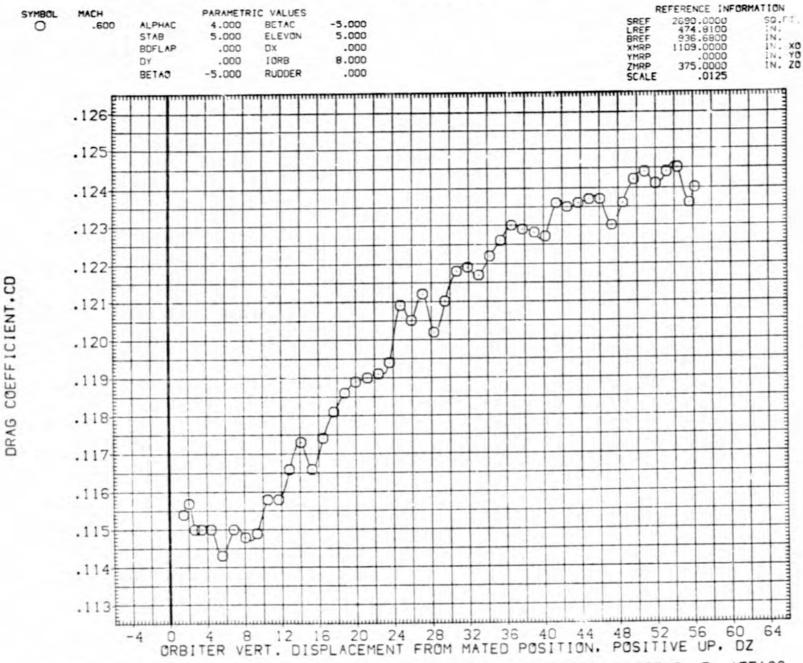


FIG. 94 ORB. DATA, CARRIER PROXIMITY. ALPHAC=4, IORB=8, BETAC=-5, BETAO=-5, AFE103

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LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE104)

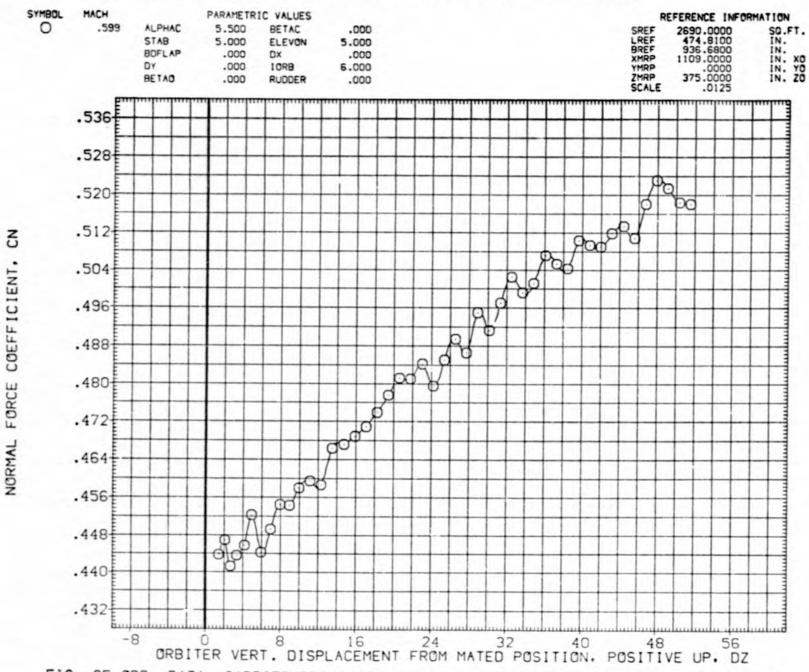


FIG. 95 ORB. DATA, CARRIER PROXIMITY, ALPHAC=5.5, IORB=6, BETAC=0, BETAO=0, AFE104

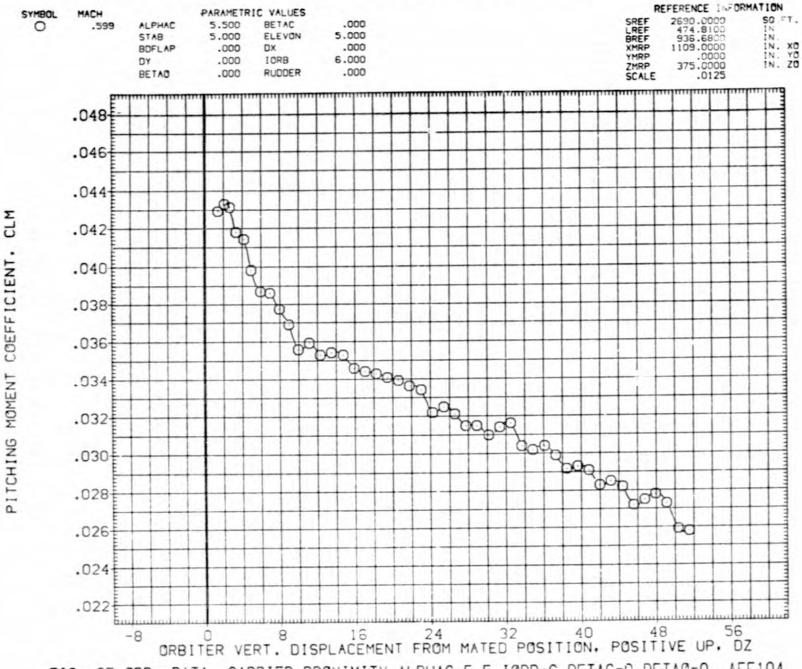


FIG. 95 ORB. DATA, CARRIER PROXIMITY, ALPHAC=5.5, IORB=6, BETAC=0, BETAO=0, AFE104

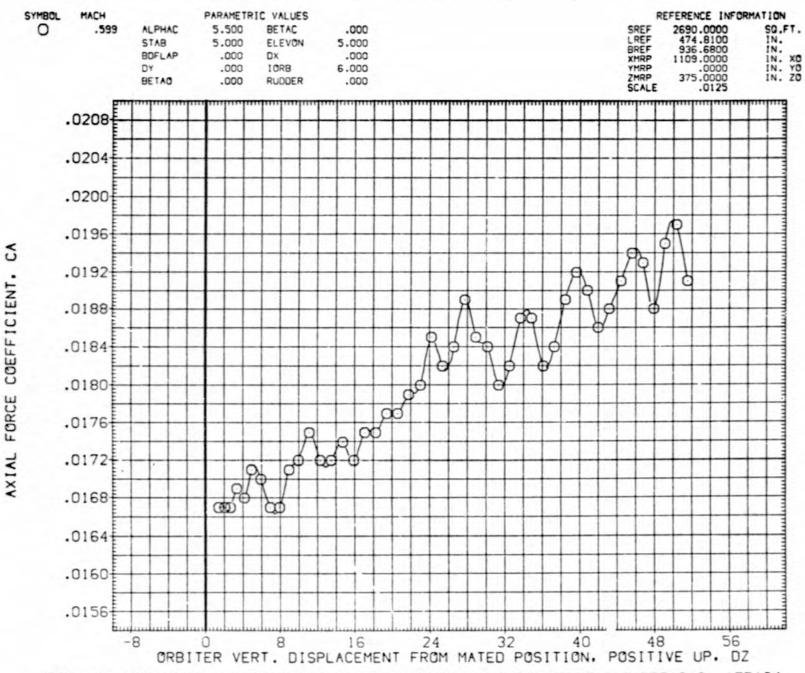


FIG. 95 ORB. DATA, CARRIER PROXIMITY, ALPHAC=5.5, IORB=6, BETAC=0, BETAO=0, AFE104

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE104)

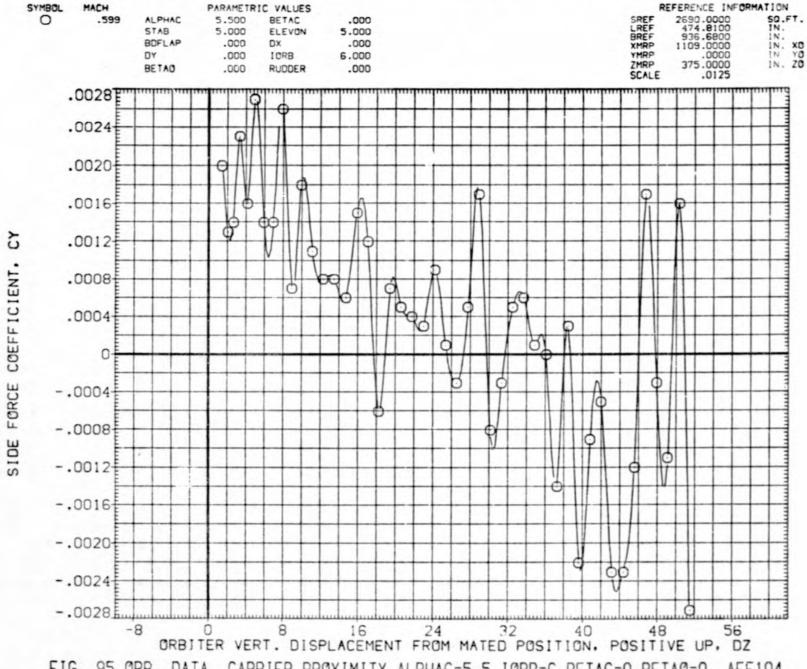


FIG. 95 ORB. DATA, CARRIER PROXIMITY, ALPHAC=5.5, IORB=6, BETAC=0, BETAO=0, AFE104

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE104)

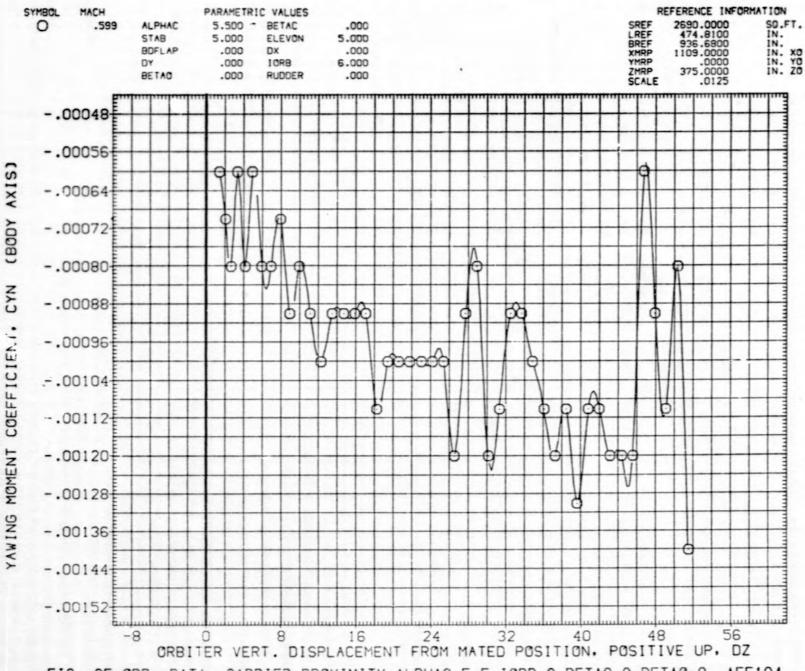
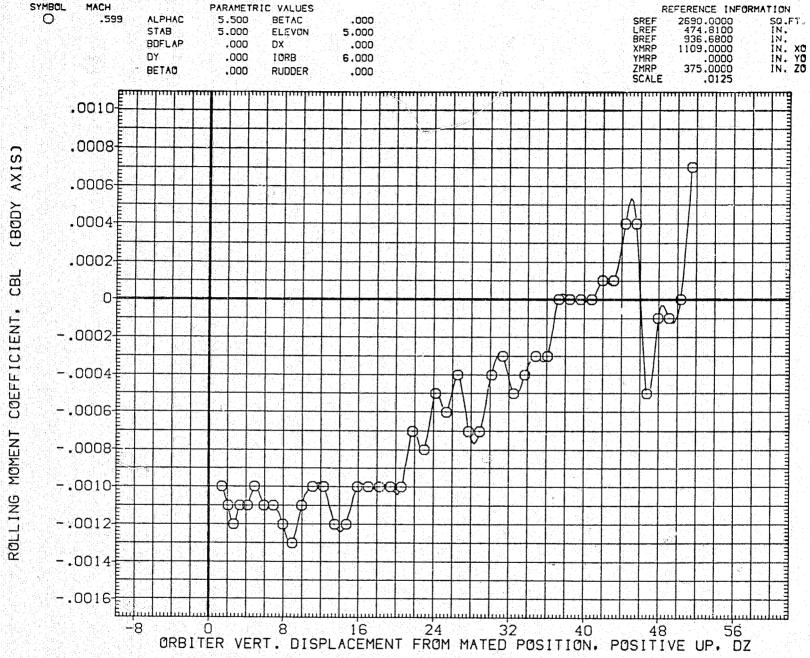
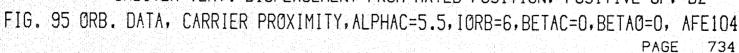


FIG. 95 ORB. DATA, CARRIER PROXIMITY, ALPHAC=5.5, IORB=6, BETAC=0, BETAO=0, AFE104





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LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE104)

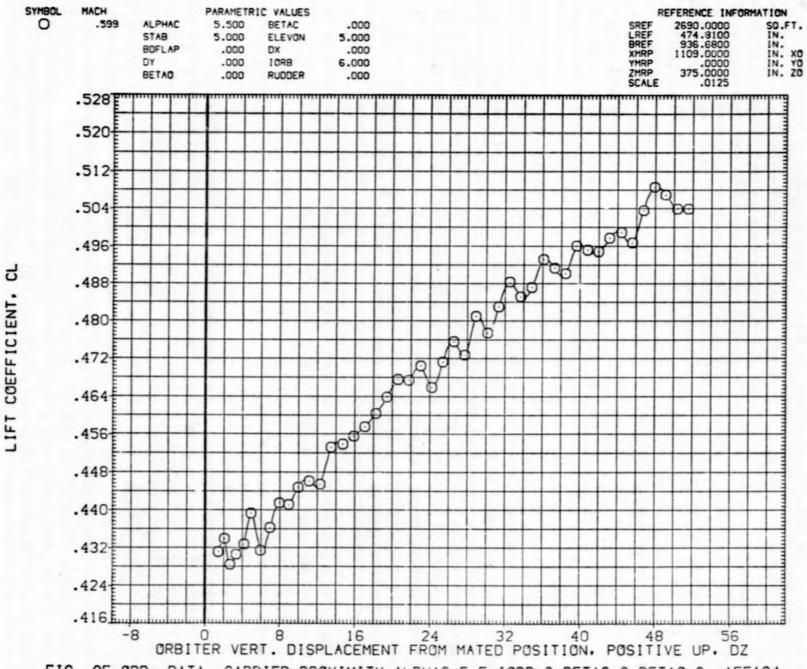


FIG. 95 ORB. DATA, CARRIER PROXIMITY, ALPHAC=5.5, IORB=6, BETAC=0, BETAO=0, AFE104

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE104)

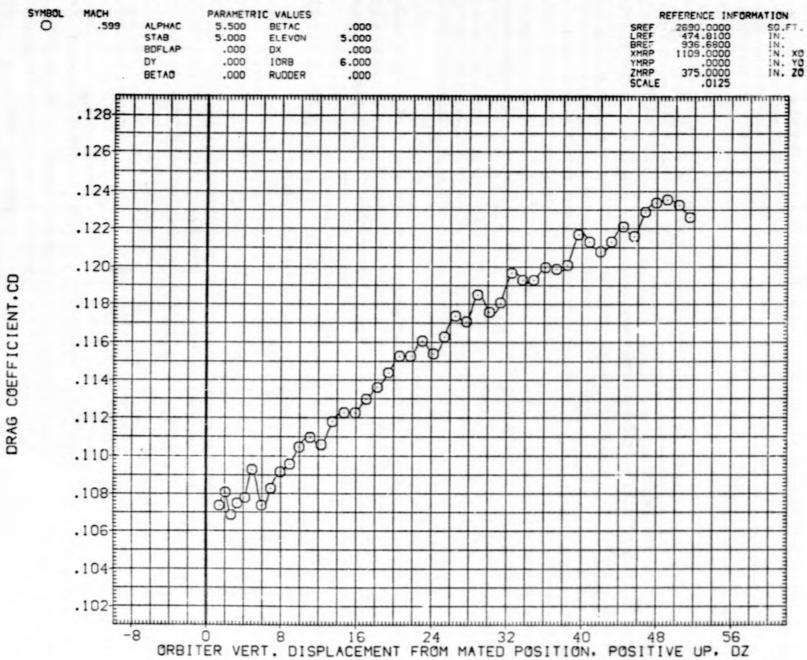


FIG. 95 ORB. DATA, CARRIER PROXIMITY, ALPHAC=5.5, IORB=6, BETAC=0, BETAO=0, AFE104

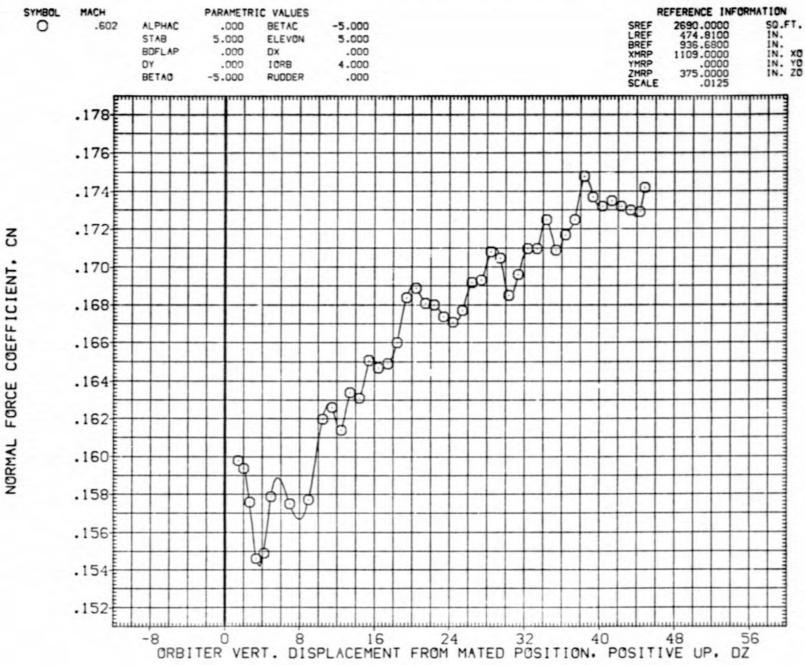


FIG. 96 ORB. DATA, CARRIER PROXIMITY, ALPHAC=0, IORB=4, BETAC=-5, BETAO=-5, AFE105

LTV44-559(CA26) 747/1 ATY 02 SI (ORBITER DATA) (AFE105)

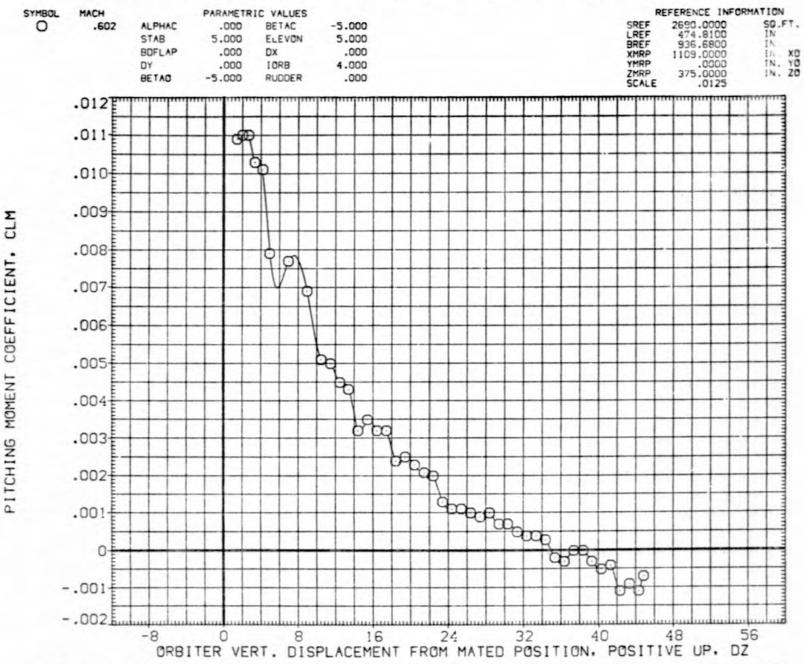


FIG. 96 ORB. DATA, CARRIER PROXIMITY, ALPHAC=0, IORB=4, BETAC=-5, BETAO=-5, AFE105

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LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE105)

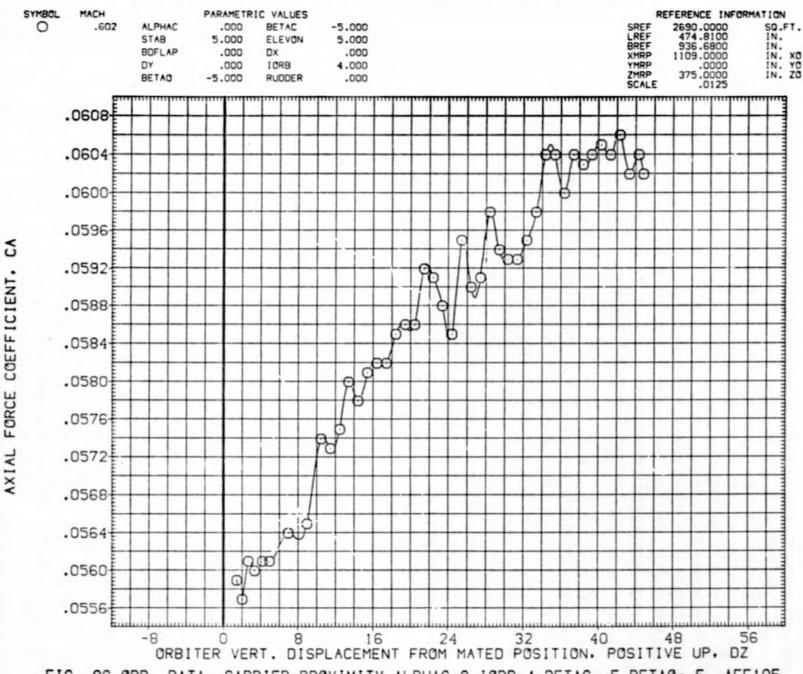


FIG. 96 ORB. DATA, CARRIER PROXIMITY, ALPHAC=0, IORB=4, BETAC=-5, BETAO=-5, AFE105

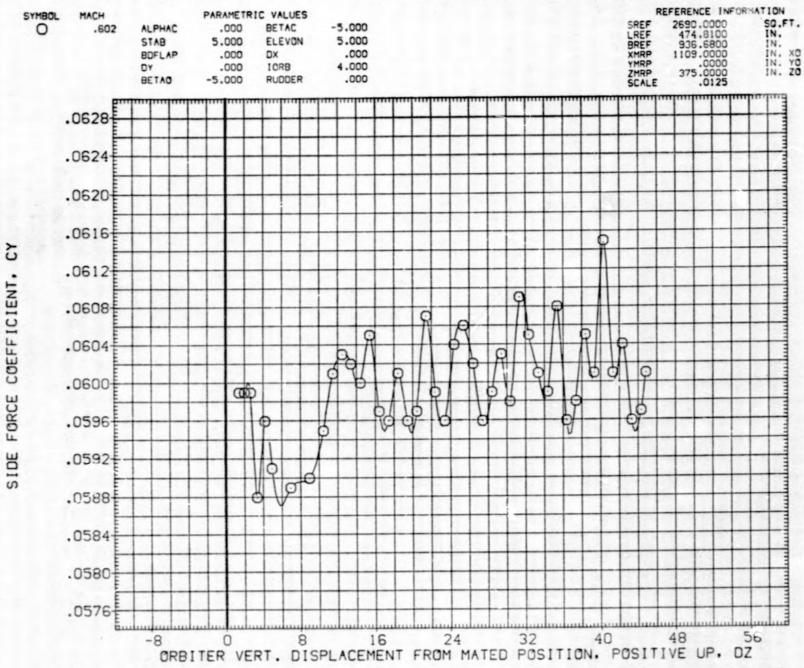


FIG. 96 ORB. DATA, CARRIER PROXIMITY, ALPHAC=0, IORB=4, BETAC=-5, BETAO=-5, AFE105

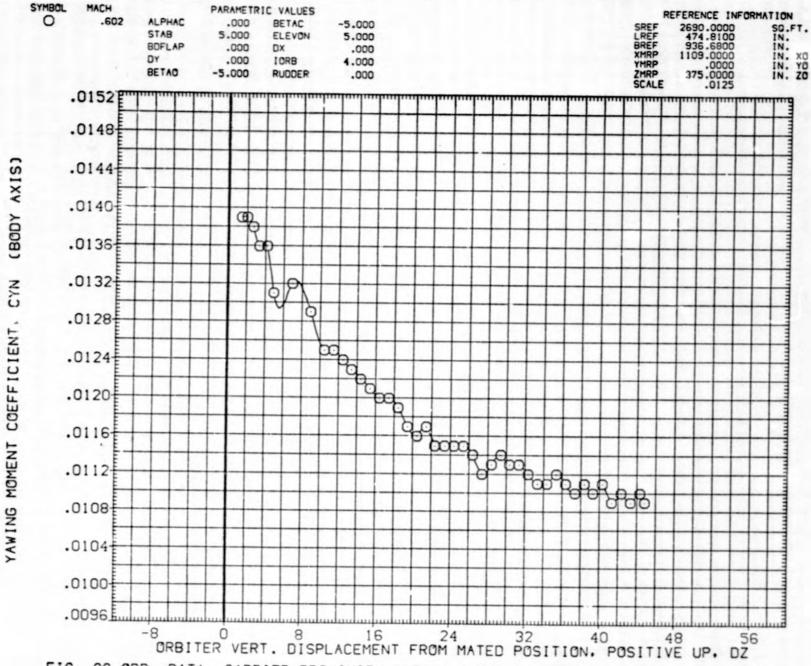


FIG. 96 ORB. DATA, CARRIER PROXIMITY, ALPHAC=0, IORB=4, BETAC=-5, BETAO=-5, AFE105

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE: (5)

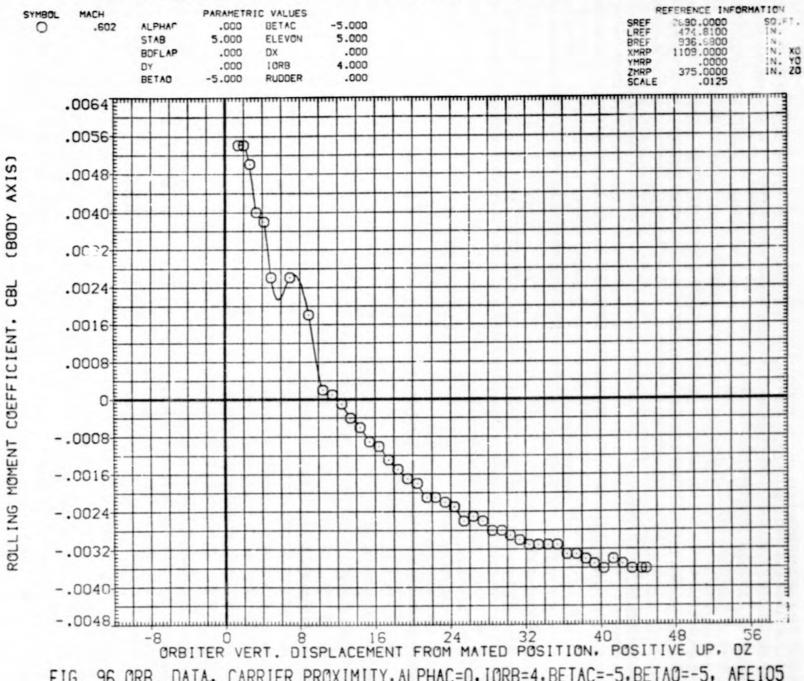


FIG. 96 ORB. DATA, CARRIER PROXIMITY, ALPHAC=0, IORB=4, BETAC=-5, BETAO=-5, AFE105 PAGE 742

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE105)

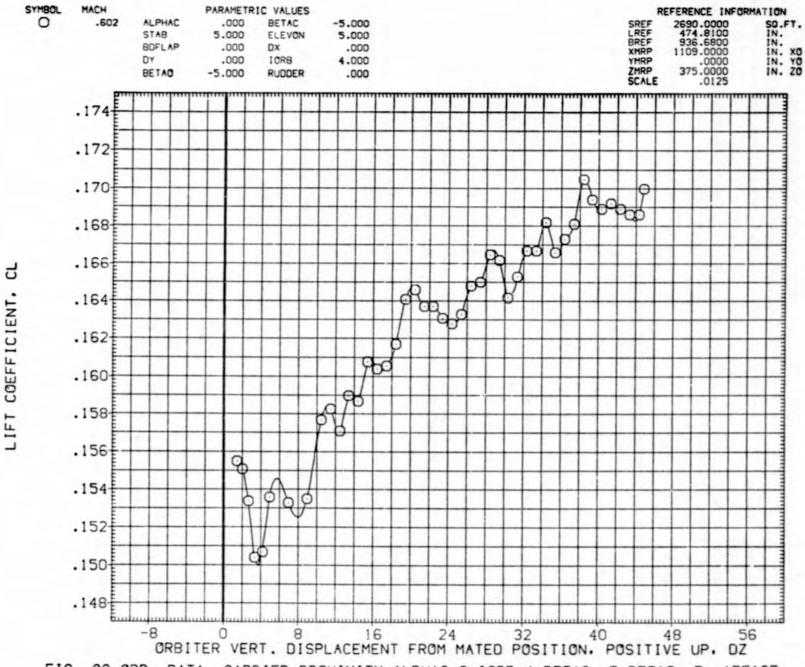


FIG. 96 ORB. DATA, CARRIER PROXIMITY, ALPHAC=0, IORB=4, BETAC=-5, BETAO=-5, AFE105

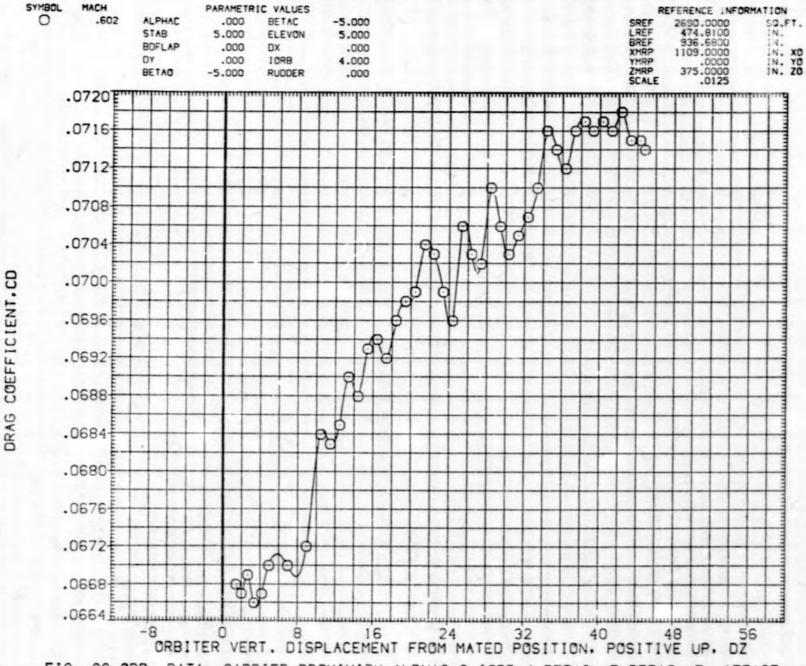
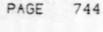


FIG. 96 ORB. DATA, CARRIER PROXIMITY, ALPHAC=0, IORB=4, BETAC=-5, BETAO=-5, AFE105



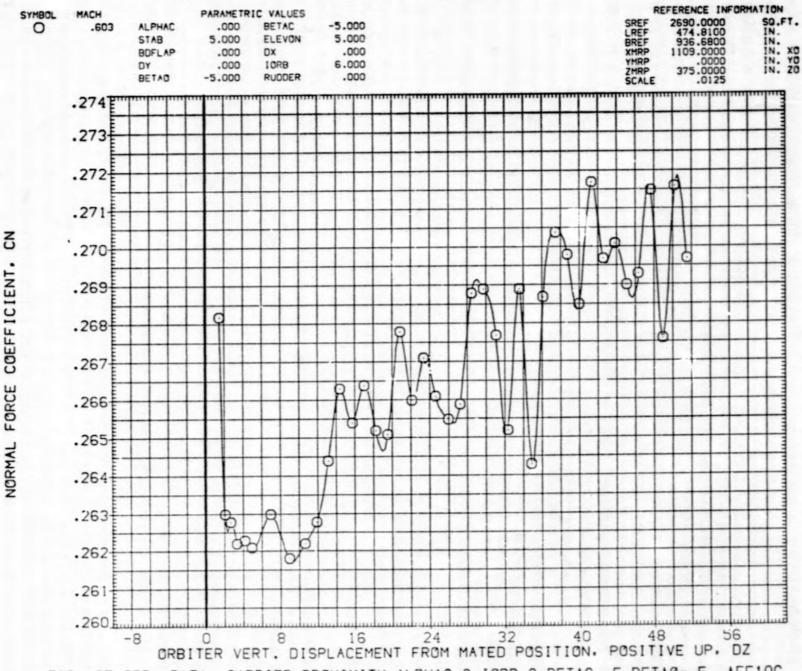


FIG. 97 ORB. DATA, CARRIER PROXIMITY, ALPHAC=0, IORB=6, BETAC=-5, BETAO=-5, AFE106

LTV44-559(CA26) 747/1 ATY 02 SI (ORBITER DATA) (AFE106)

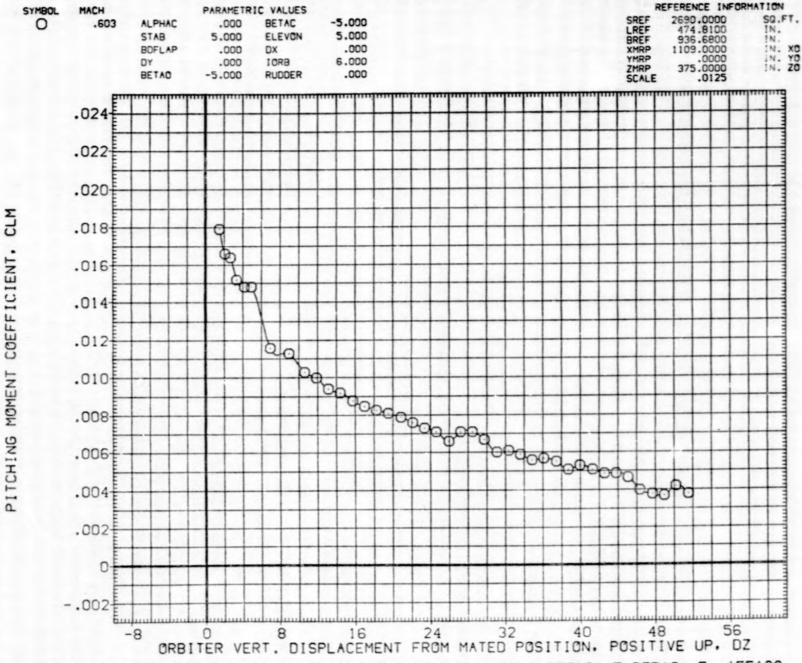


FIG. 97 ORB. DATA, CARRIER PROXIMITY, ALPHAC=0, IORB=6, BETAC=-5, BETAO=-5, AFE106

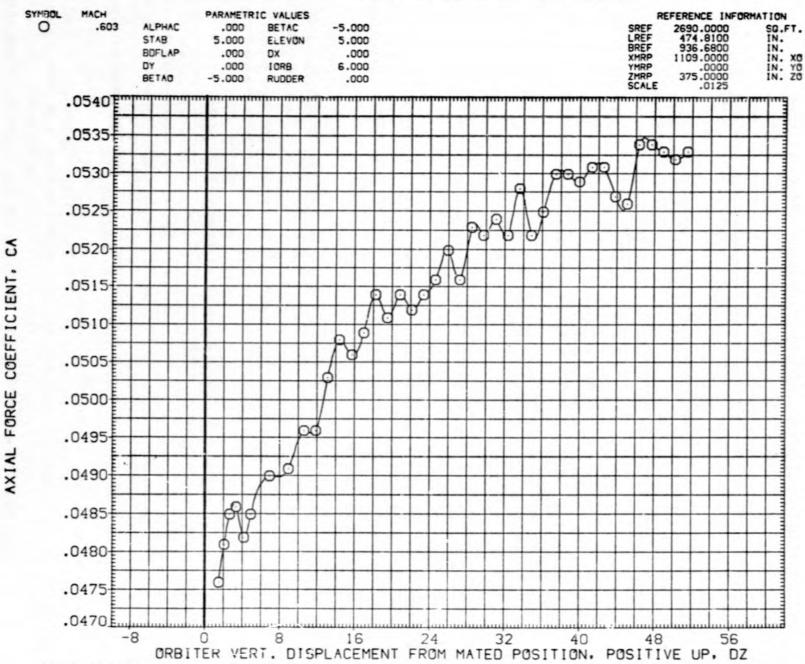


FIG. 97 ORB. DATA, CARRIER PROXIMITY, ALPHAC=0, IORB=6, BETAC=-5, BETAO=-5, AFE106

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE106)

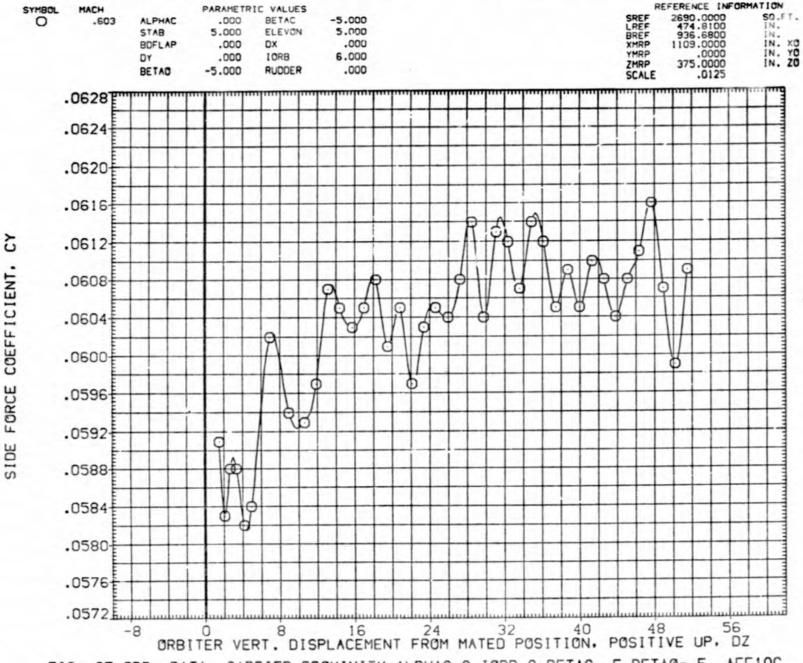
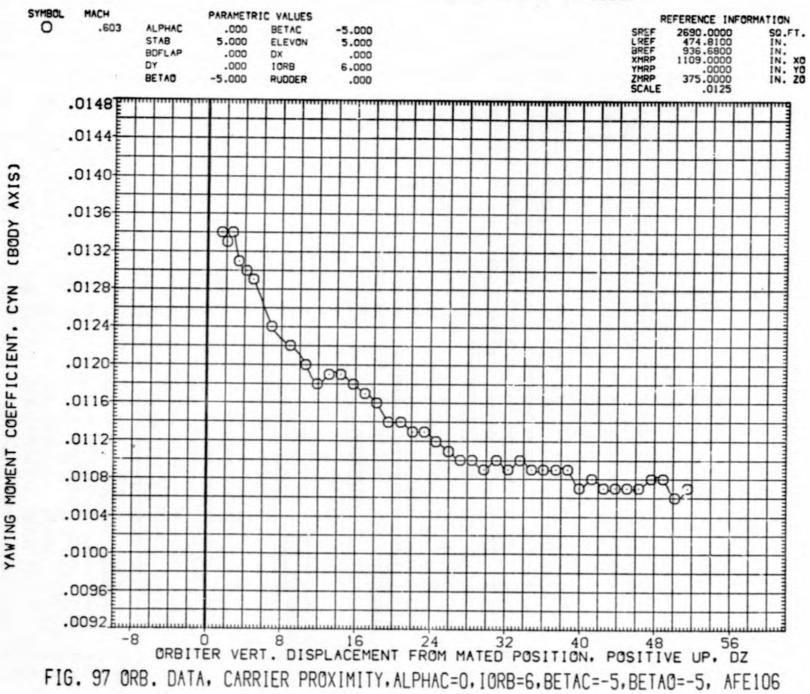


FIG. 97 ORB. DATA, CARRIER PROXIMITY, ALPHAC=0, IORB=6, BETAC=-5, BETAO=-5, AFE106



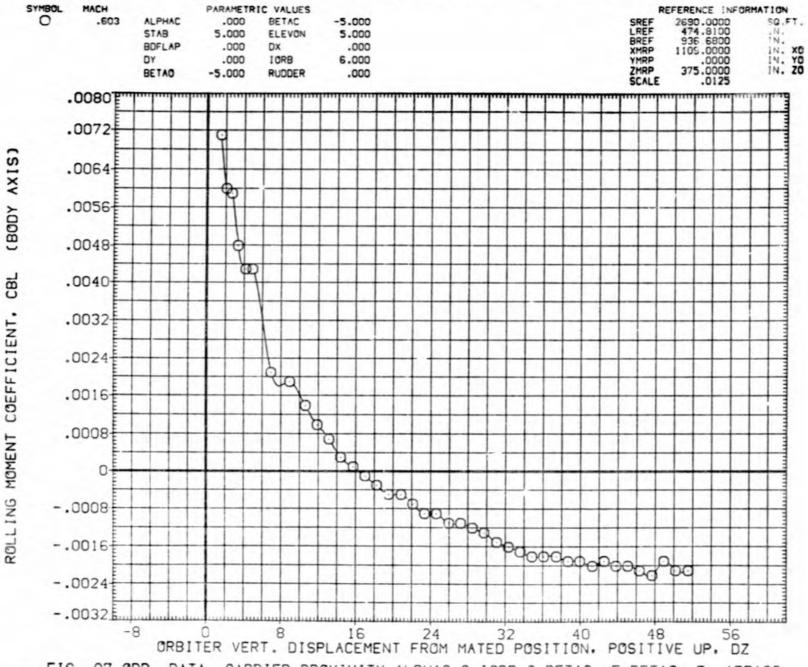
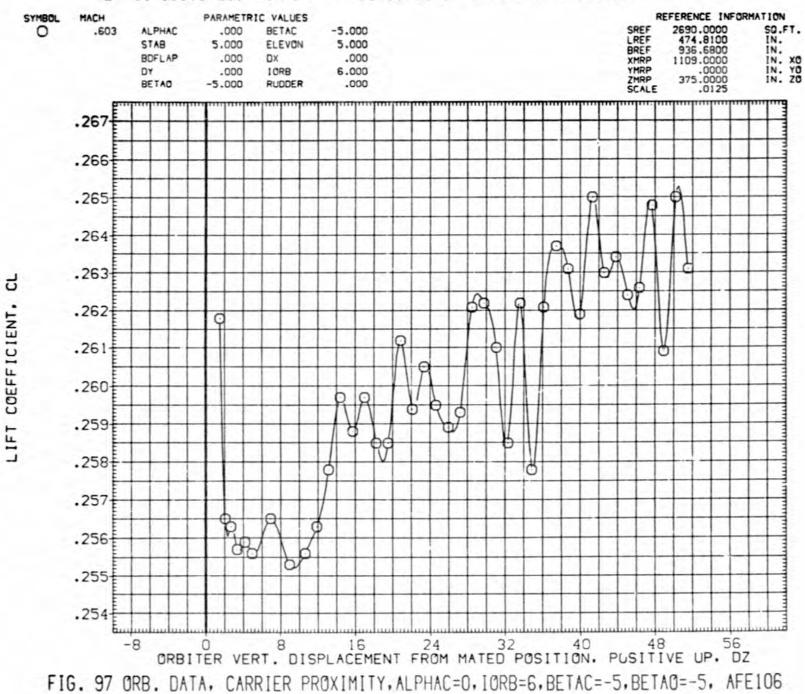


FIG. 97 ORB. DATA, CARRIER PROXIMITY, ALPHAC=0, IORB=6, BETAC=-5, BETAO=-5, AFE106

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE106)

0



LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE106)

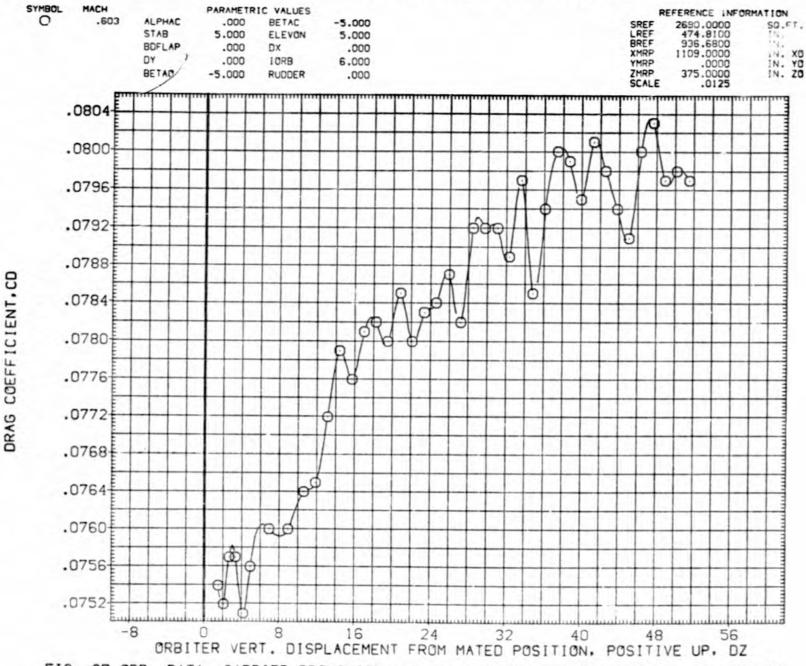


FIG. 97 ORB. DATA, CARRIER PROXIMITY, ALPHAC=0, IORB=6, BETAC=-5, BETAO=-5, AFE106

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE107)

0

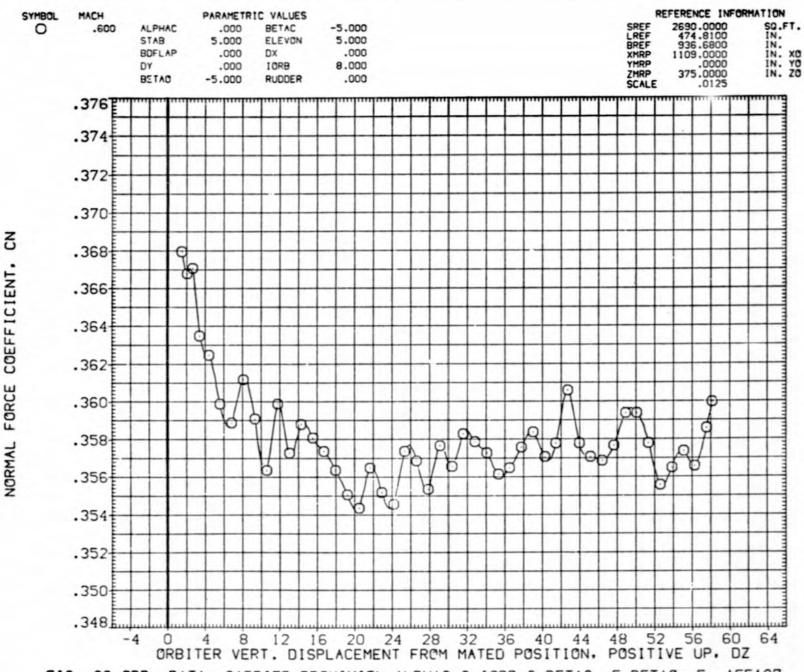


FIG. 98 ORB. DATA, CARRIER PROXIMITY, ALPHAC=0, IORB=8, BETAC=-5, BETAO=-5, AFE107

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE107)

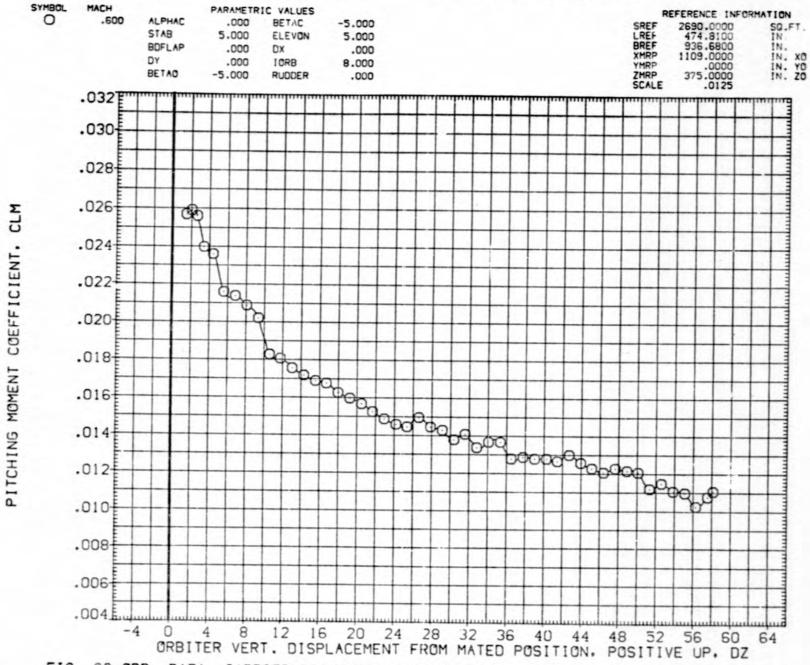


FIG. 98 ORB. DATA, CARRIER PROXIMITY, ALPHAC=0, IORB=8, BETAC=-5, BETAO=-5, AFE107

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE107)

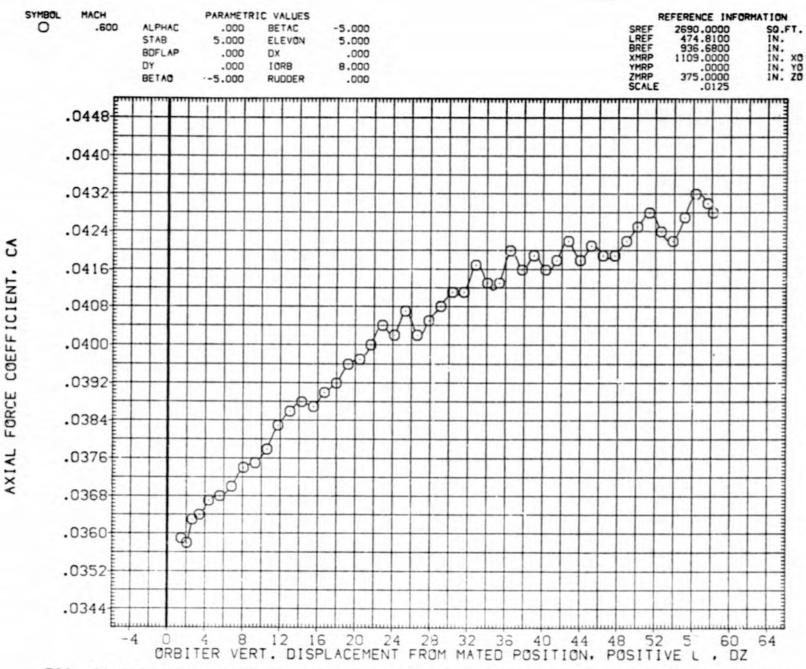


FIG. 98 ORB. DATA, CARRIER PROXIMITY, ALPHAC=0, ICRB=8, BETAC=-5, BETAO=-5, AFE107

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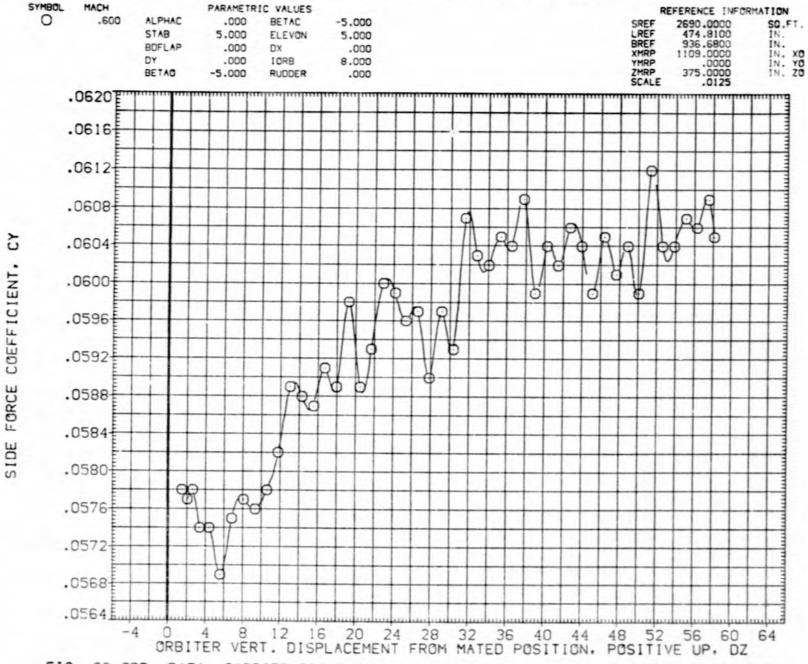


FIG. 98 ORB. DATA, CARRIER PROXIMITY, ALPHAC=0, IORB=8, BETAC=-5, BETAO=-5, AFE107

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE107)

0

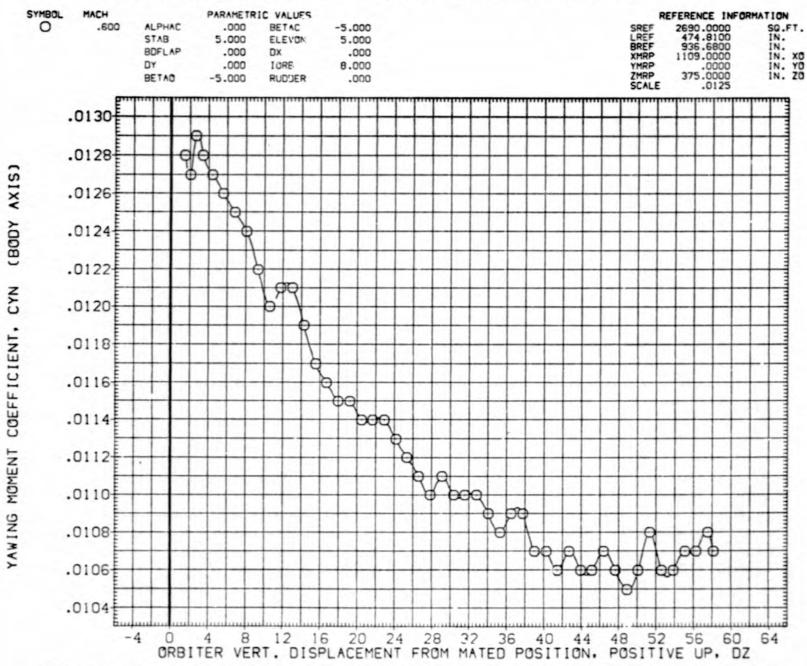


FIG. 98 ORB. DATA, CARRIER PROXIMITY, ALPHAC=0, IORB=8, BETAC=-5, BETAO=-5, AFE107

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE107)

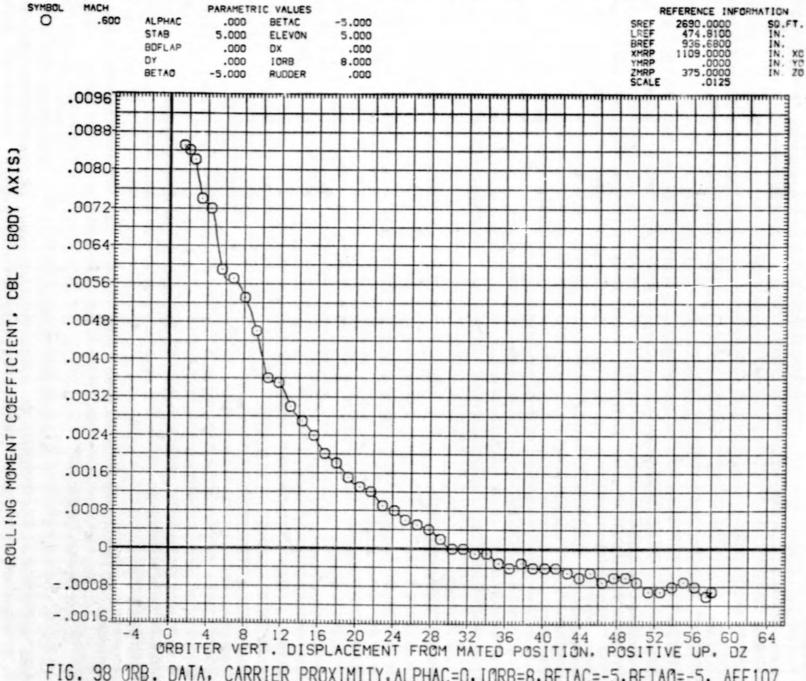
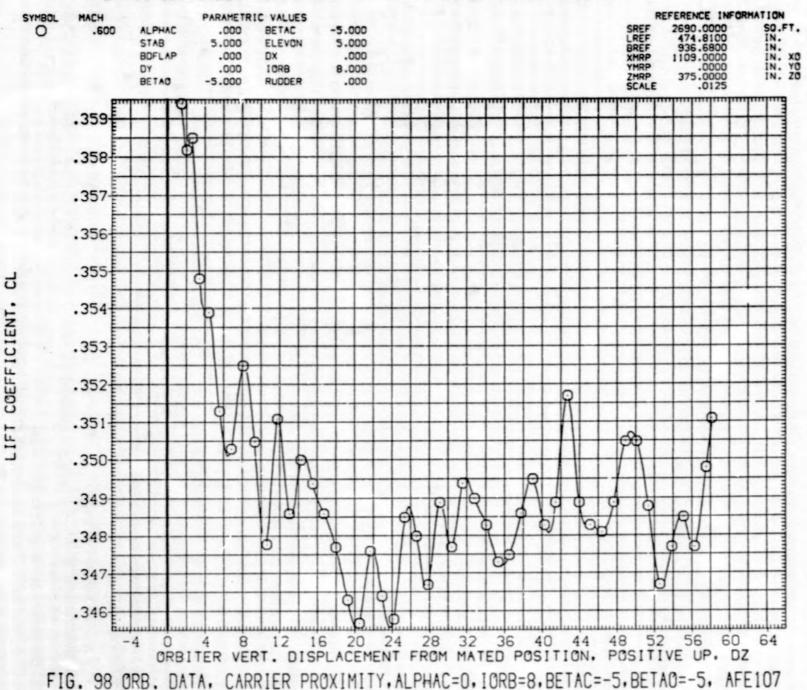


FIG. 98 ORB. DATA, CARRIER PROXIMITY, ALPHAC=0, IORB=8, BETAC=-5, BETAO=-5, AFE107

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE107)



LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE107)

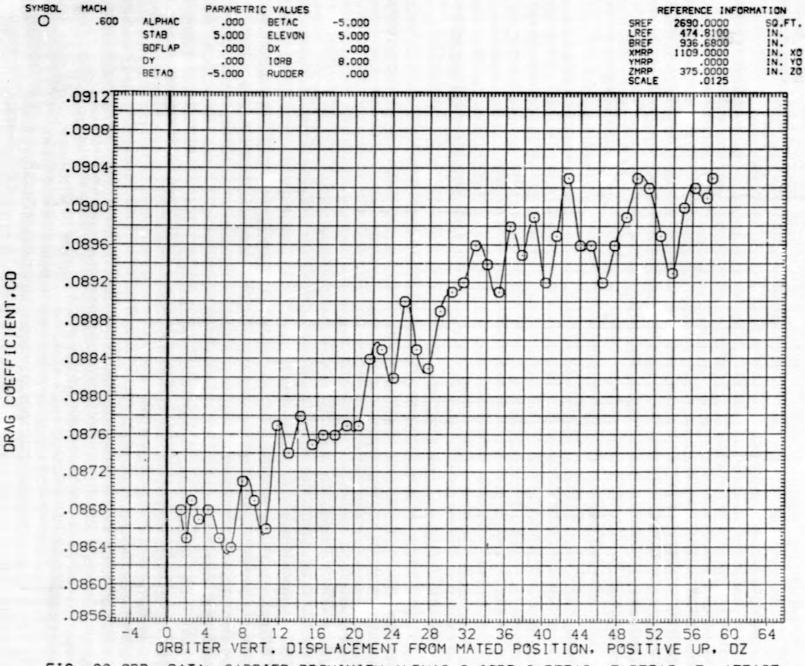
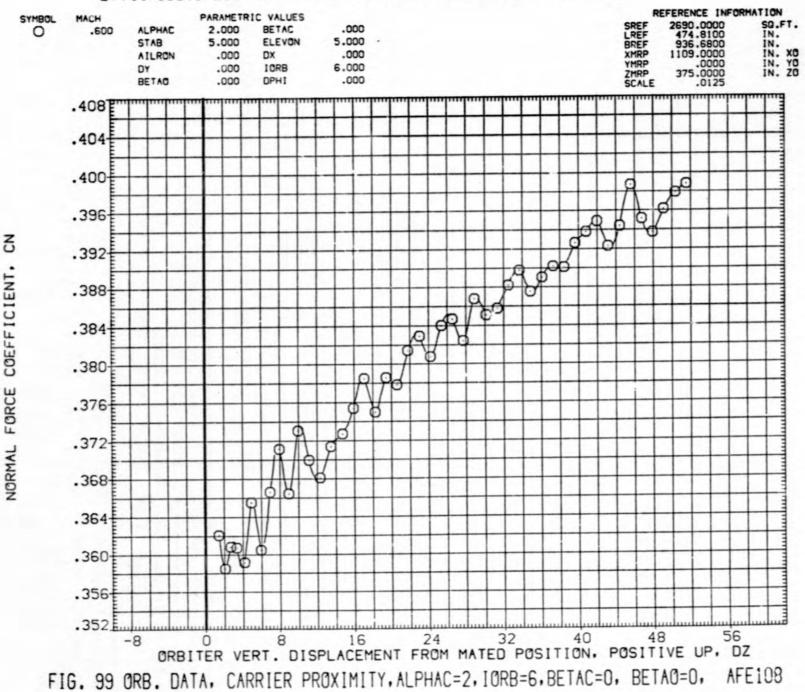


FIG. 98 ORB. DATA, CARRIER PROXIMITY, ALPHAC=0, IORB=8, BETAC=-5, BETAO=-5, AFE107

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE108)



LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE108)

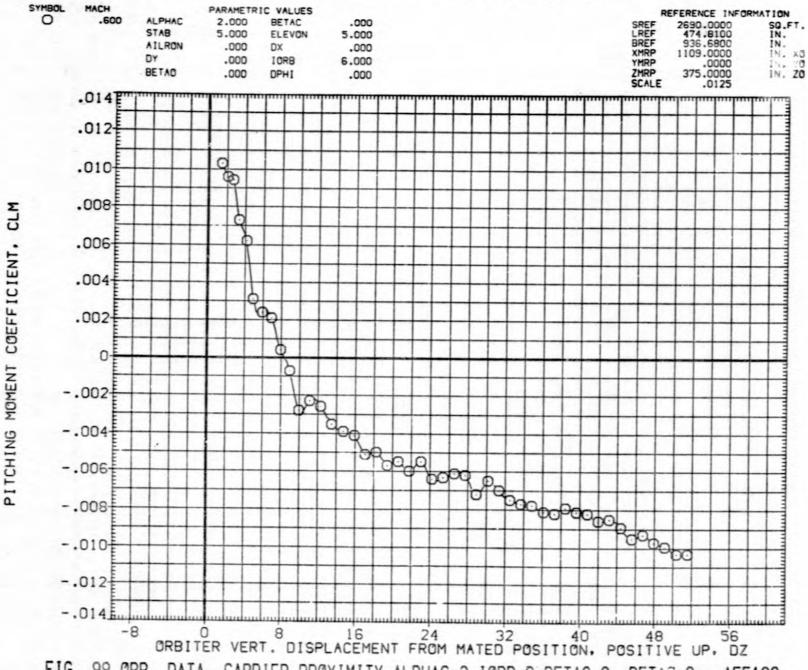
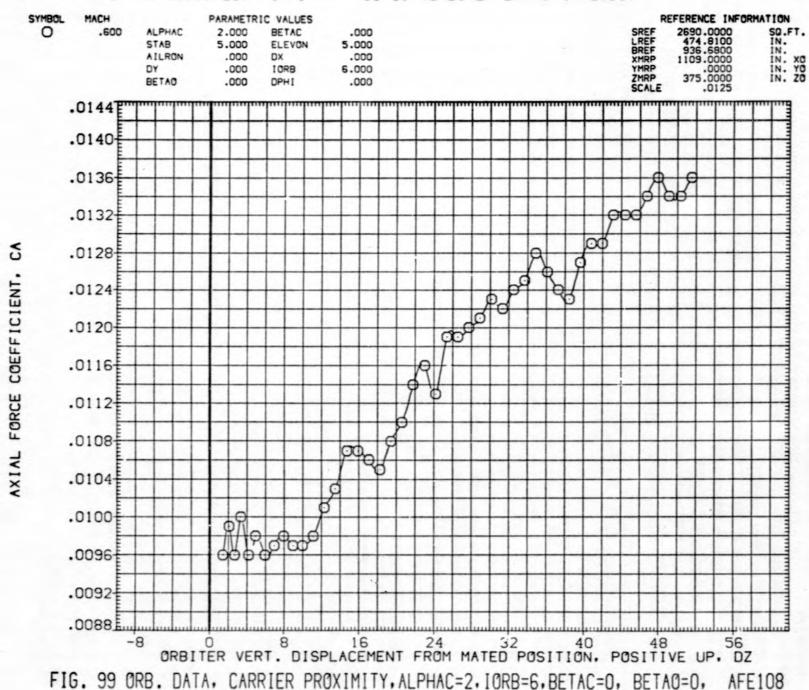


FIG. 99 ORB. DATA, CARRIER PROXIMITY, ALPHAC=2, IORB=6, DETAC=0, BETAC=0, AFE108

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE108)



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LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE108)

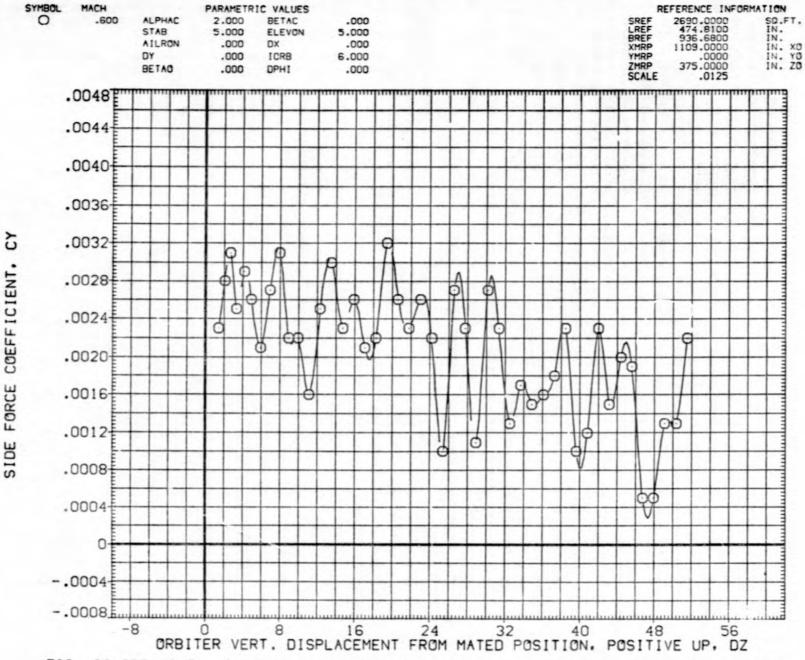


FIG. 99 ORB. DATA, CARRIER PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, AFE108

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE108)

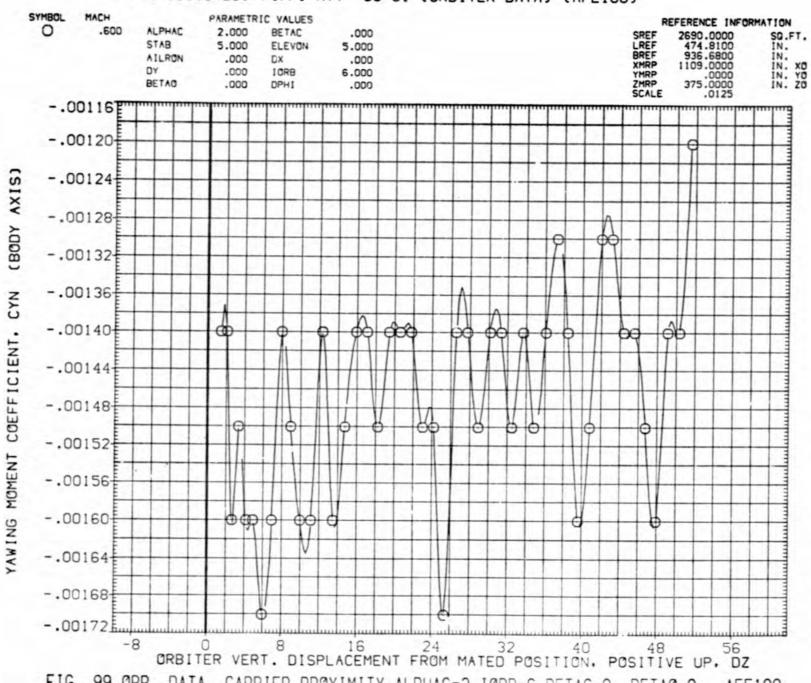


FIG. 99 ORB. DATA, CARRIER PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, AFE108

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE108)

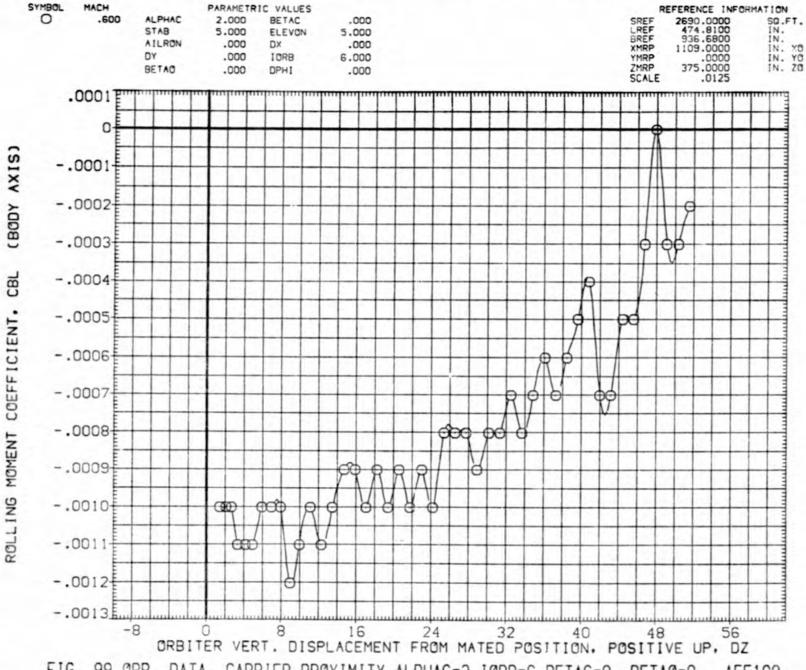
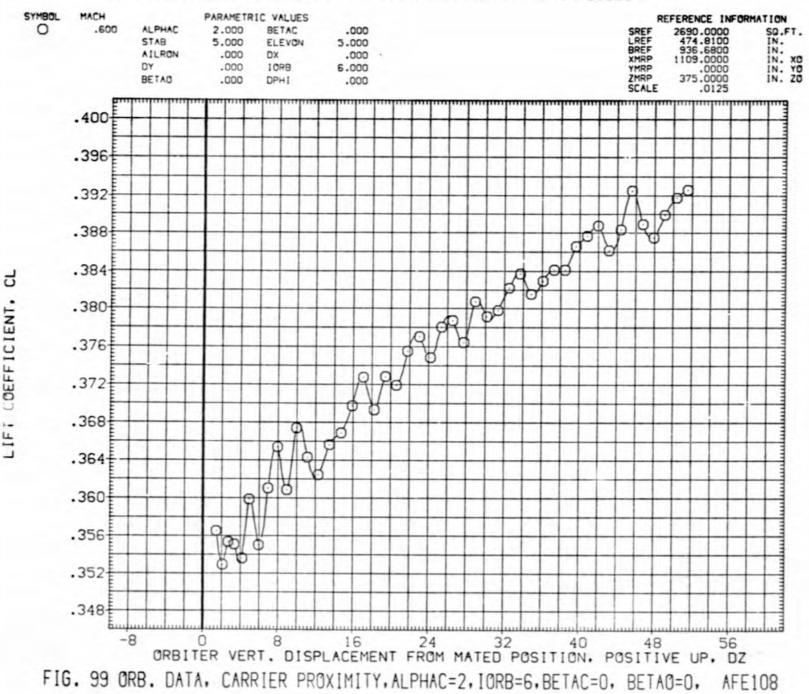


FIG. 99 ORB. DATA, CARRIER PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, AFE108



0

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE108)



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LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE108)

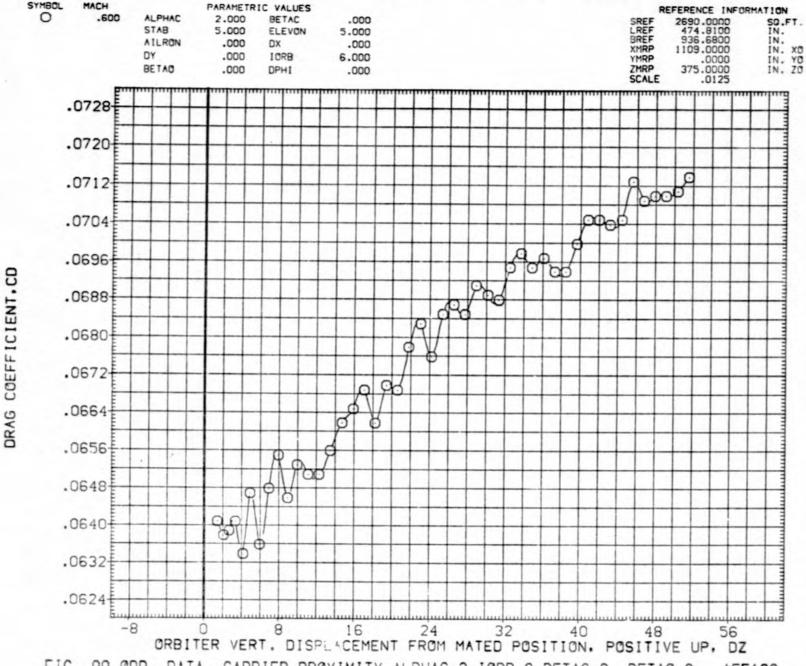


FIG. 99 ORB. DATA, CARRIER PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, AFE108

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE109)

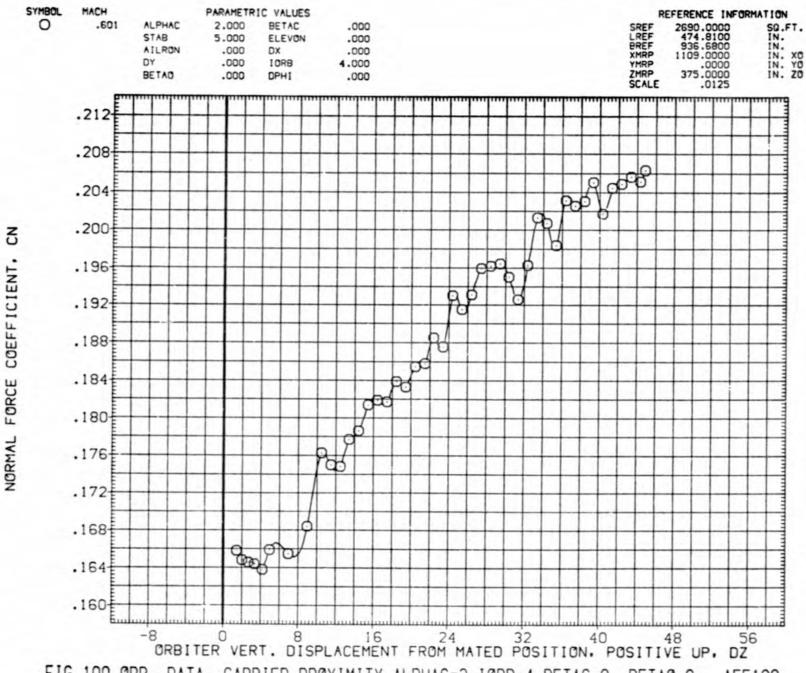


FIG.100 ORB. DATA, CARRIER PROXIMITY, ALPHAC=2, IORB=4, BETAC=0, BETAO=0, AFE109

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE109)

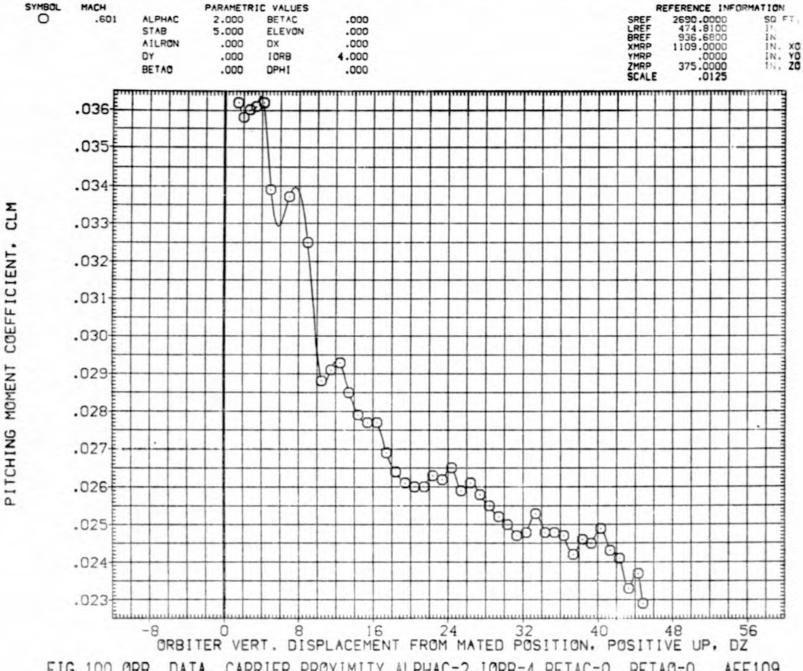


FIG. 100 ORB. DATA, CARRIER PROXIMITY, ALPHAC=2, IORB=4, BETAC=0, BETAO=0, AFE109 770

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE109)

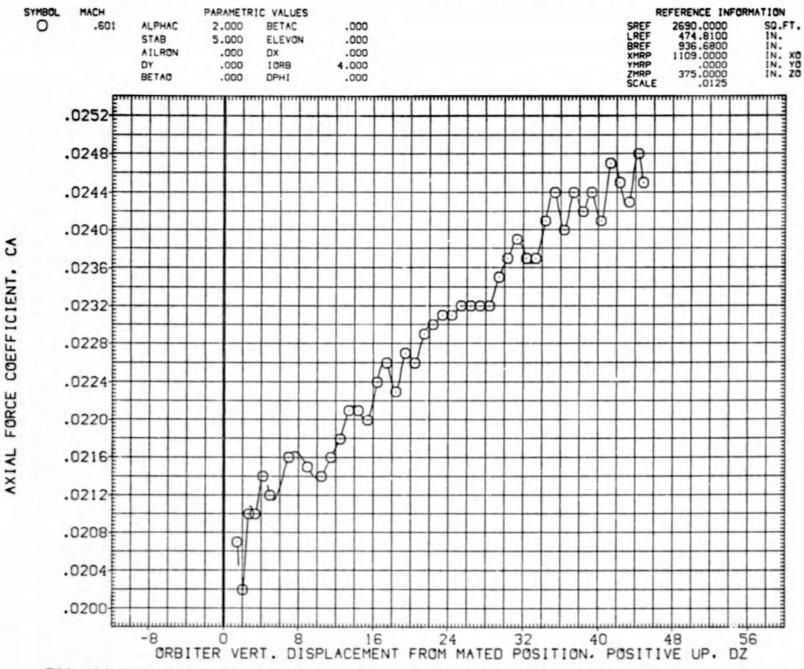


FIG.100 ORB. DATA, CARRIER PROXIMITY, ALPHAC=2, IORB=4, BETAC=0, BETAO=0, AFE109

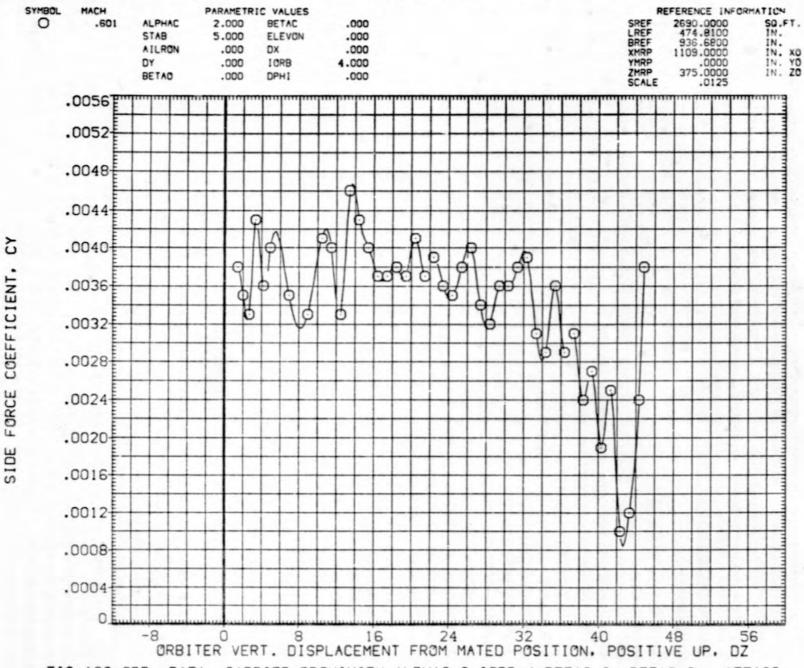
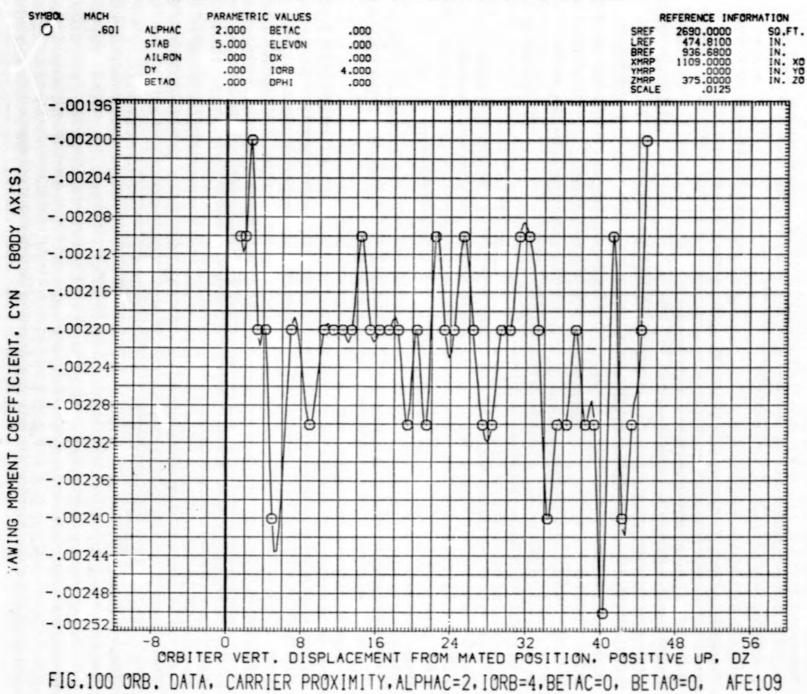
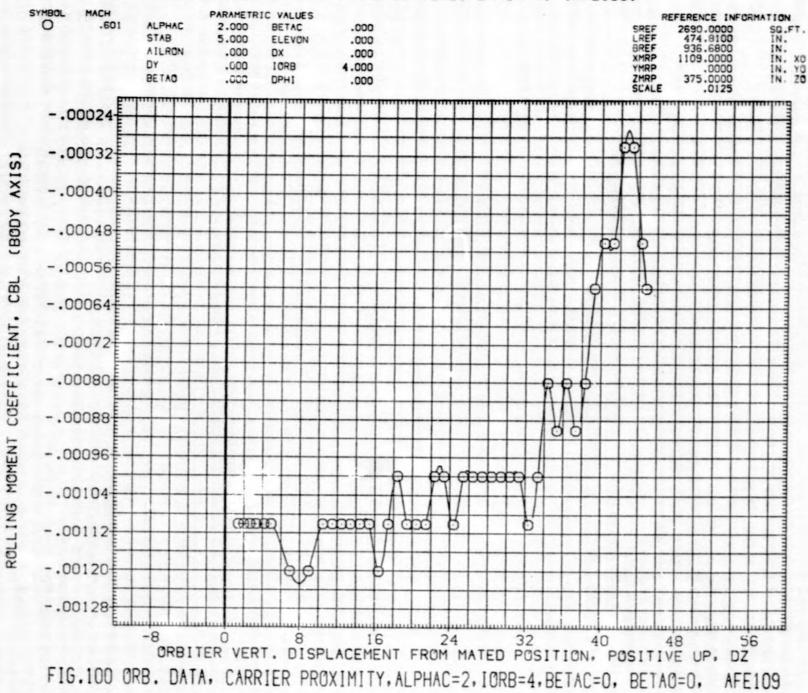


FIG.100 ORB. DATA, CARRIER PROXIMITY, ALPHAC=2, IORB=4, BETAC=0, BETAO=0, AFE109

LTV44-559(CA26) 747/1 ATY 06 SI (ORBITER DATA) (AFE109)



LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE109)



LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE109)

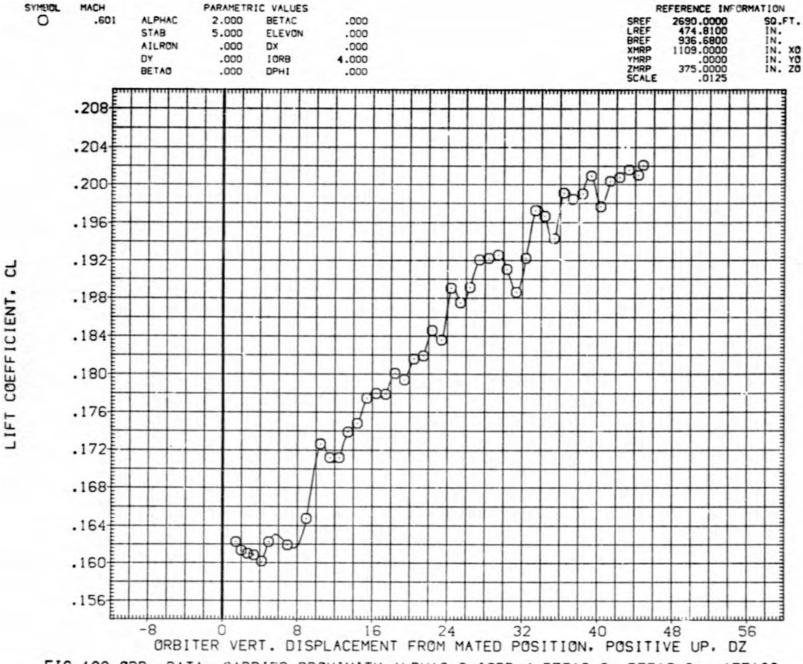


FIG.100 ORB. DATA, CARRIER PROXIMITY, ALPHAC=2, IORB=4, BETAC=0, BETAO=0, AFE109

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE109)

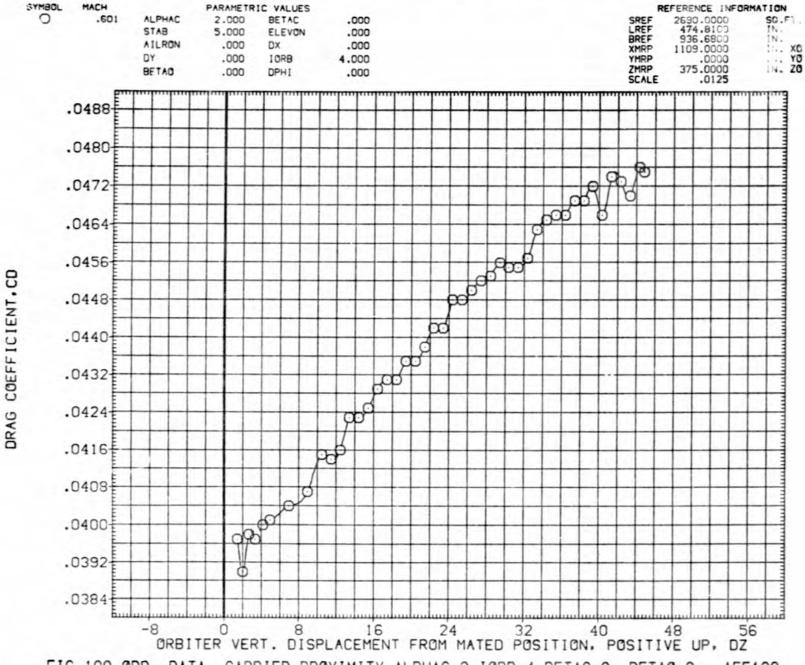


FIG.100 ORB. DATA, CARRIER PROXIMITY, ALPHAC=2, IORB=4, BETAC=0, BETAO=0, AFE109

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE110)

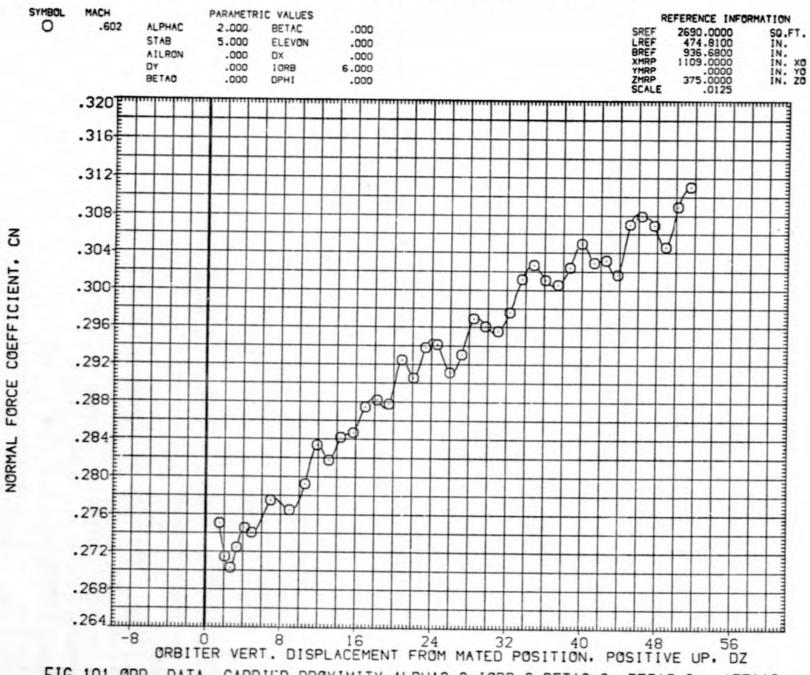


FIG.101 ORB. DATA, CARRIER PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, AFE110

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE110)

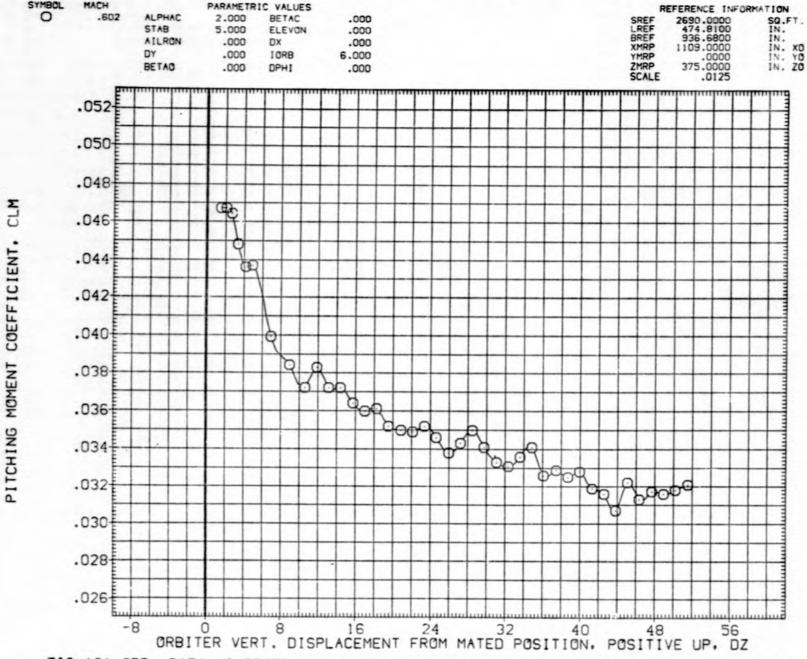
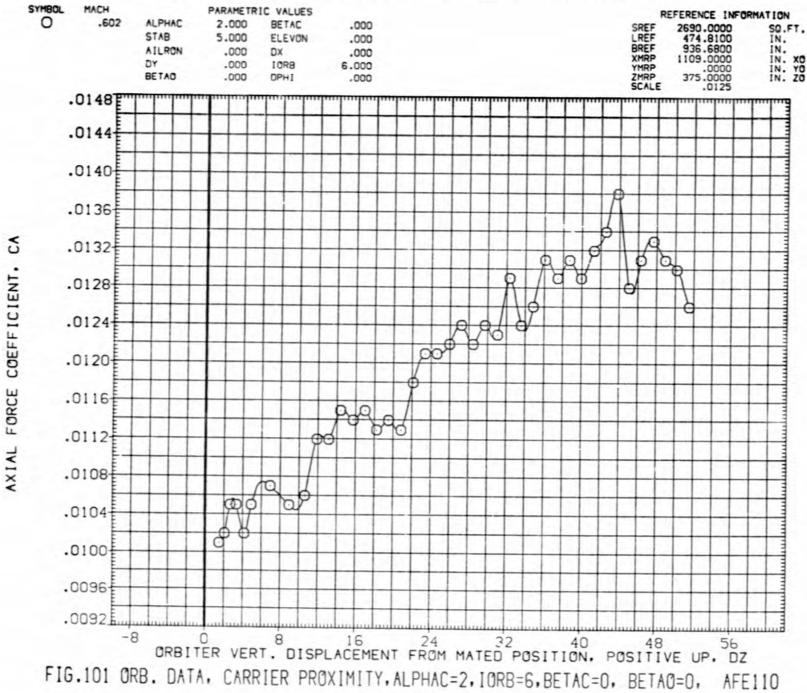


FIG.101 ORB. DATA, CARRIER PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, AFE110

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE110)



LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE110)

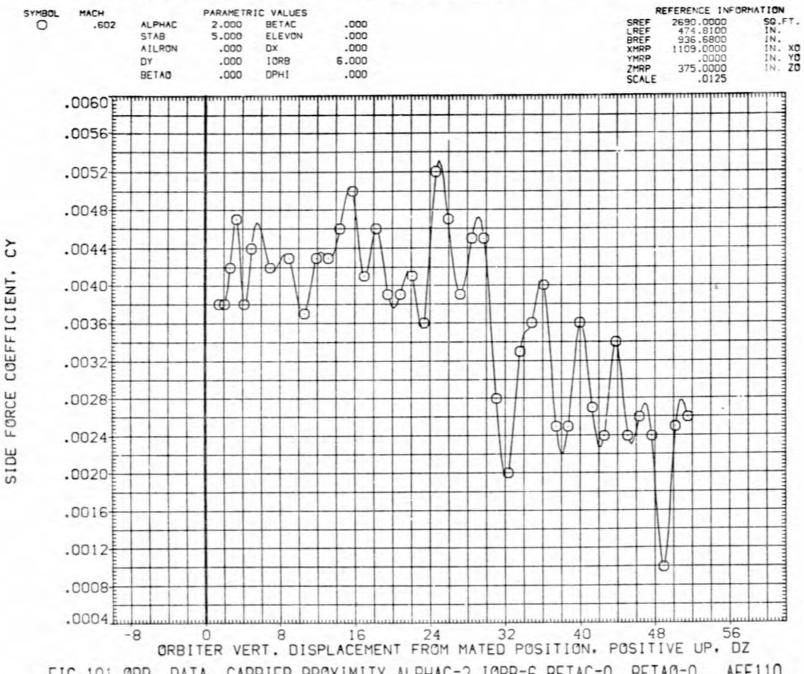
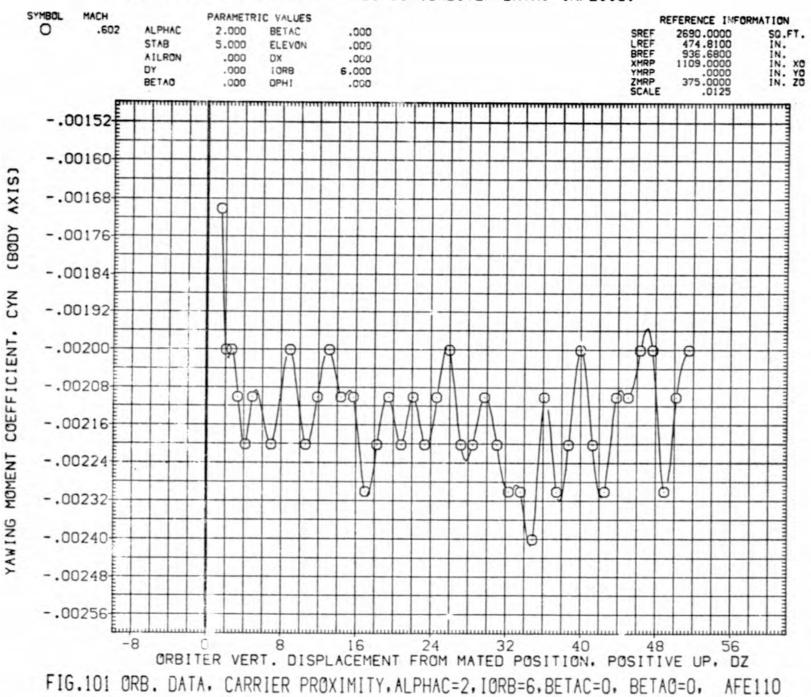


FIG.101 ORB. DATA, CARRIER PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, AFE110

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE110)



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LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE110)

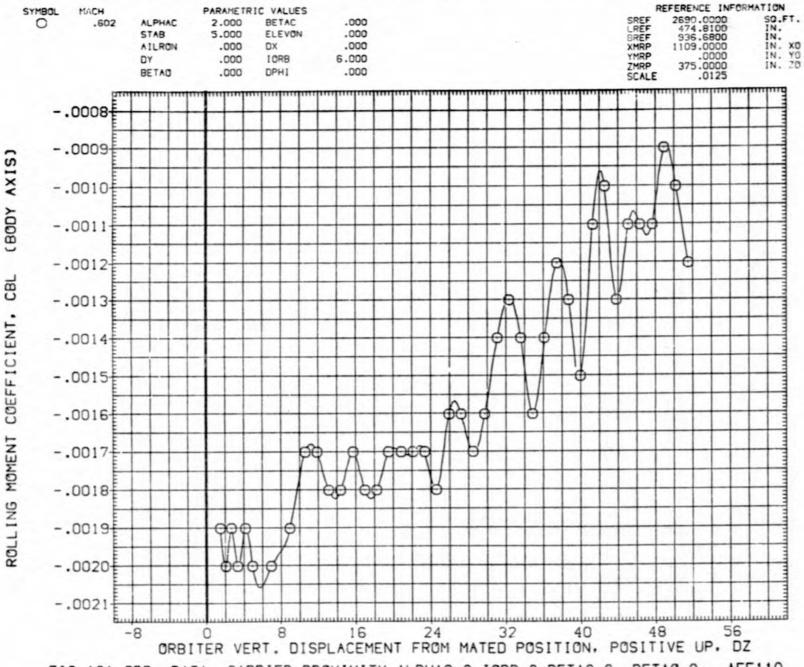
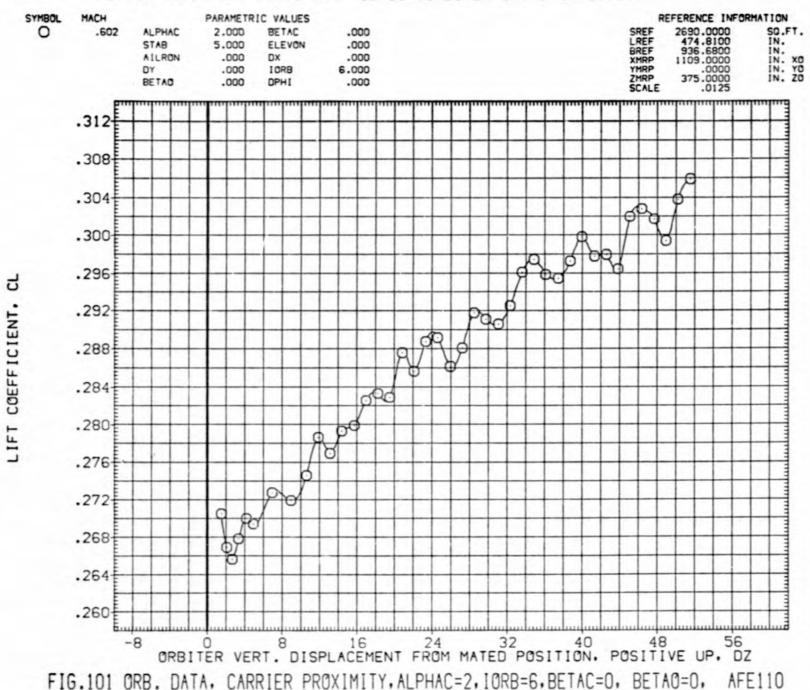
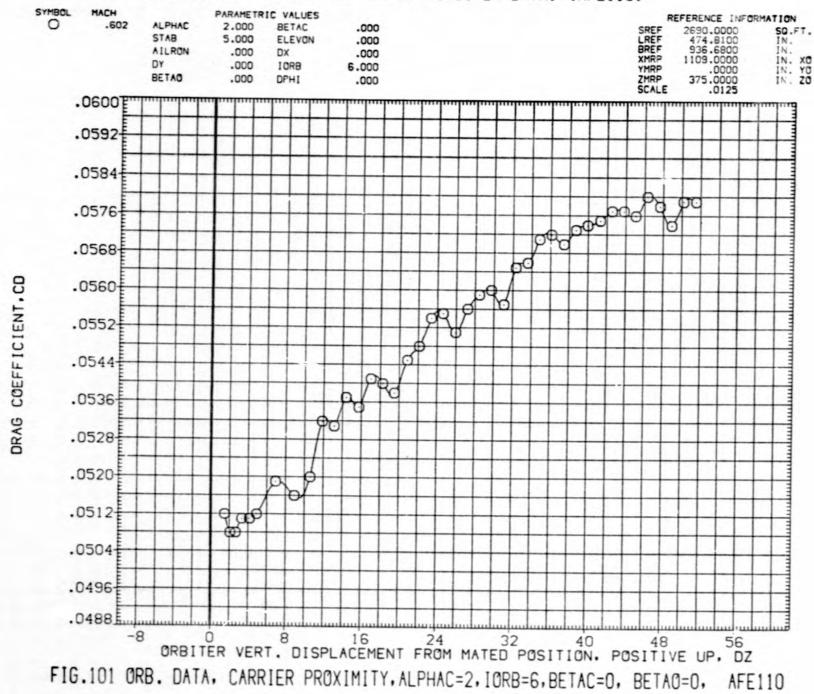


FIG.101 ORB. DATA, CARRIER PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, AFE110

LTV44-559(CA26) 747/1 ATY 06 SI (ORBITER DATA) (AFE110)



LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE110)



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LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE111)

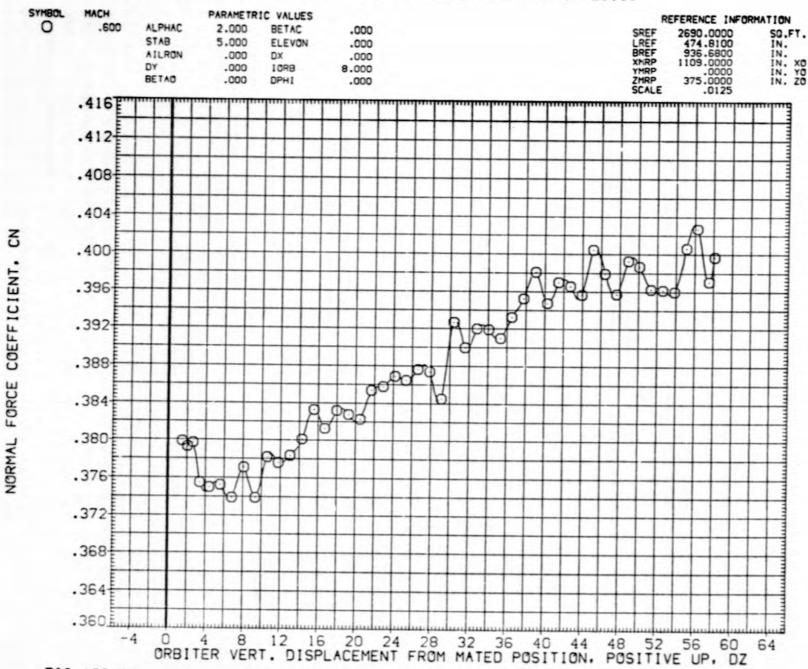


FIG.102 ORB. DATA, CARRIER PROXIMITY, ALPHAC=2, IORB=8, BETAC=0, BETAO=0, AFE111

LTV44-559(CA26) 747/1 ATY 06 SI (ORBITER DATA) (AFE111)

PARAMETRIC VALUES

SYMBOL

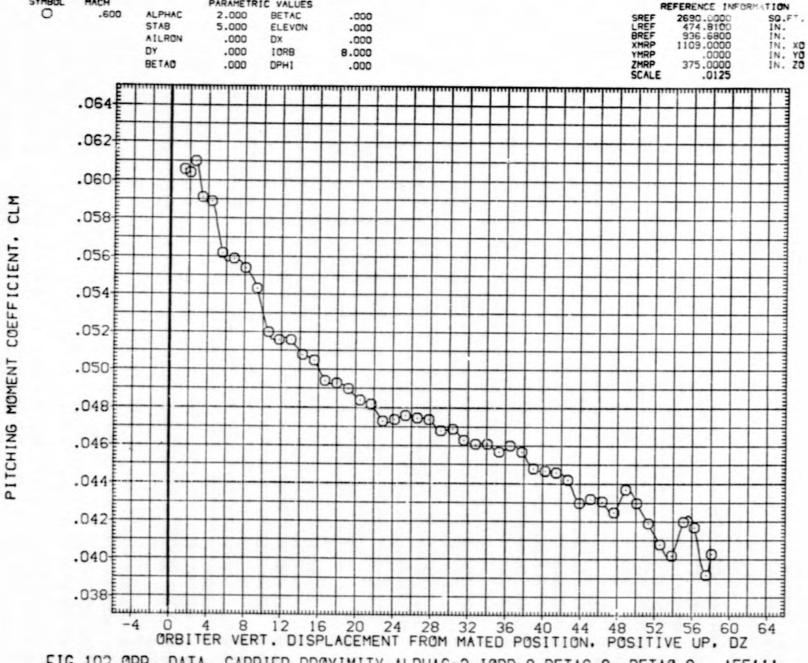


FIG.102 ORB. DATA, CARRIER PROXIMITY, ALPHAC=2, IORB=8, BETAC=0, BETAO=0, AFE111 PAGE 786

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE111)

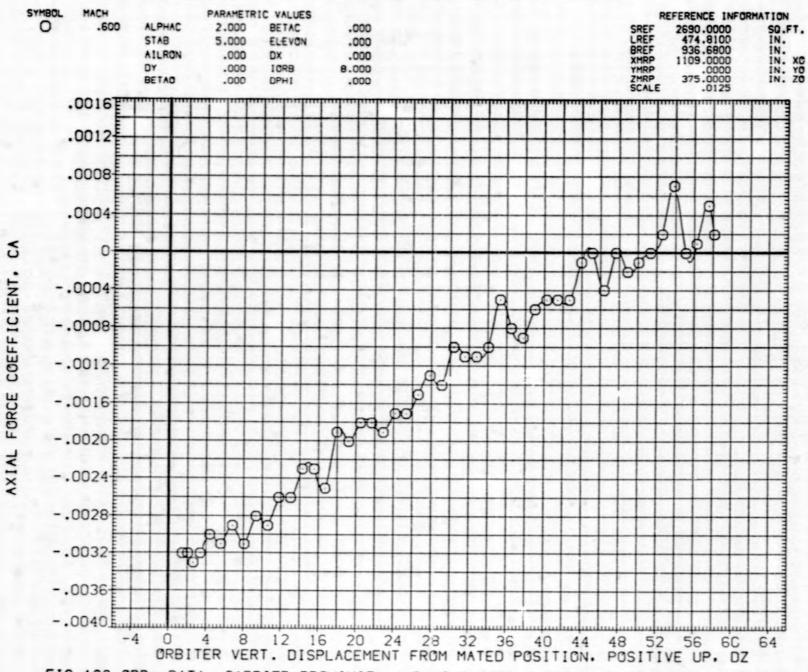


FIG.102 ORB. DATA, CARRIER PROXIMITY, ALPHAC=2, IORB=8, BETAC=0, BETAO=0, AFE111

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE111)

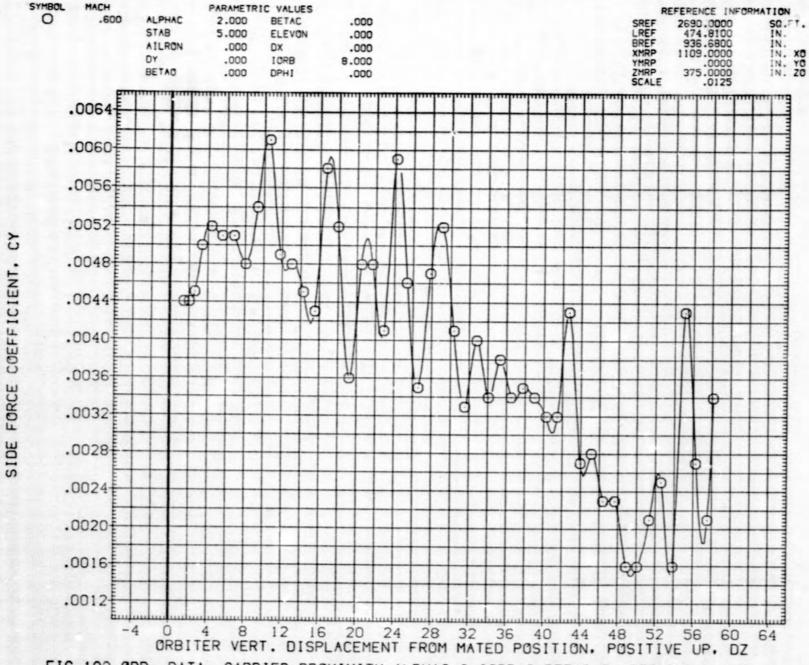


FIG.102 ORB. DATA, CARRIER PROXIMITY, ALPHAC=2, IORB=8, BETAC=0, BETAO=0, AFE111

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE111)

and.

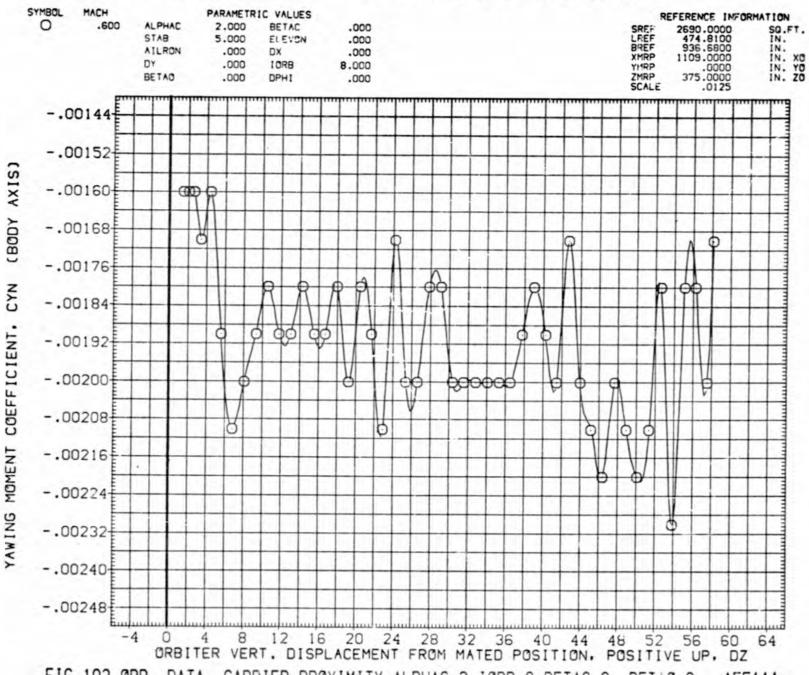


FIG.102 ORB. DATA, CARRIER PROXIMITY, ALPHAC=2, IORB=8, BETAC=0, BETAO=0, AFE111

LTV44-559(CA26) 747/1 ATY 06 SI (ORBITER DATA) (AFE111)

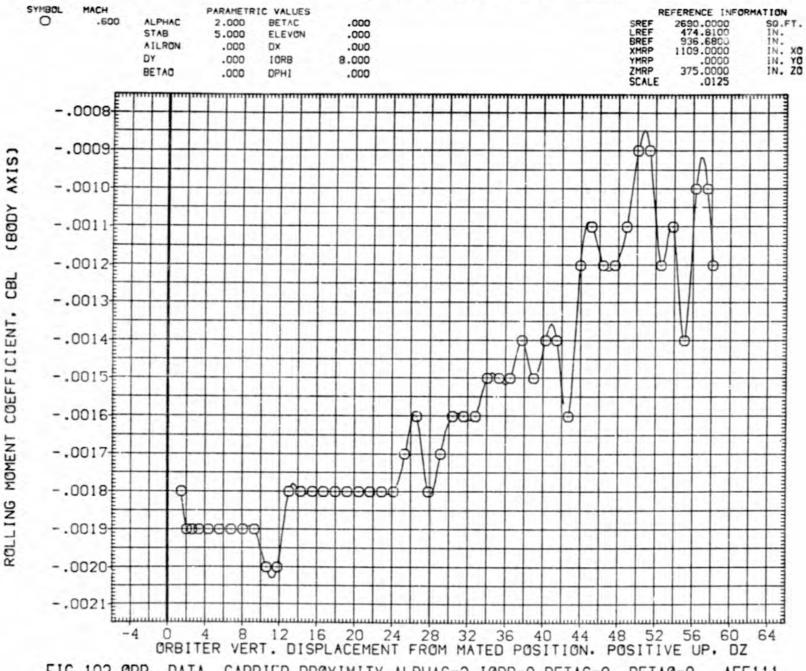


FIG.102 ORB. DATA, CARRIER PROXIMITY, ALPHAC=2, IORB=8, BETAC=0, BETAO=0, AFE111

LTV44-559(CA26) 747/1 ATY 06 S! (ORBITER DATA) (AFE111)

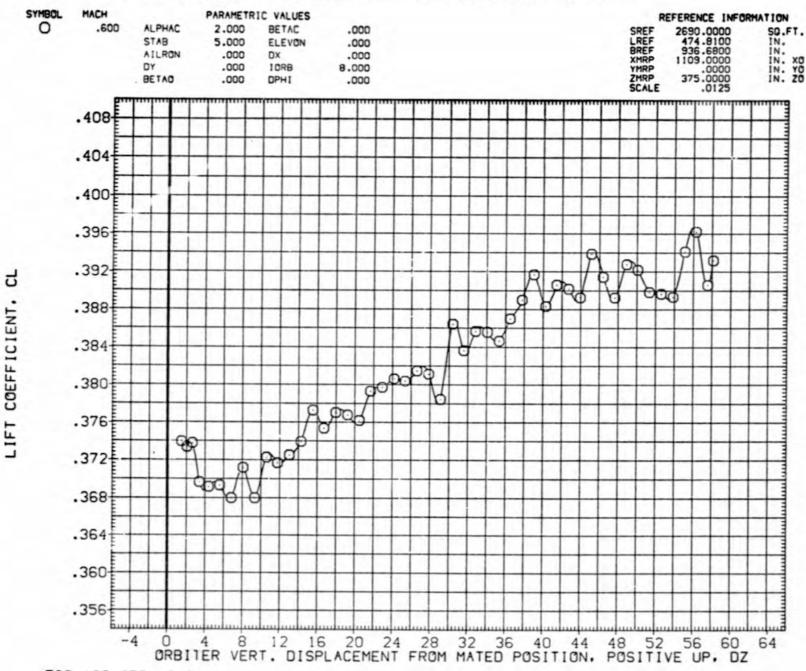


FIG.102 ORB. DATA, CARRIER PROXIMITY, ALPHAC=2, IORB=8, BETAC=0, BETAO=0, AFE111

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE111)

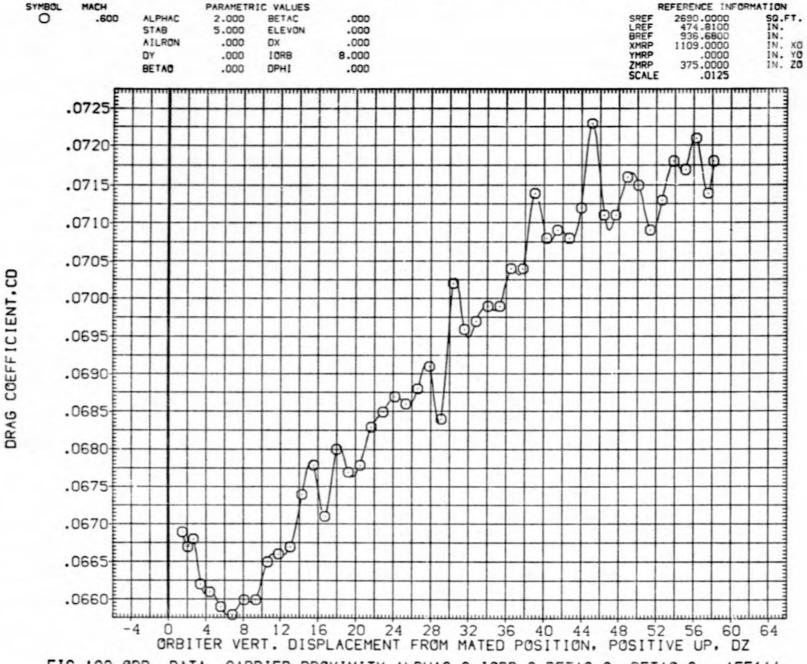


FIG.102 ORB. DATA, CARRIER PROXIMITY, ALPHAC=2, IORB=8, BETAC=0, BETAO=0, AFE111

LTV44-559(CA26) 747/1 ATY 06 SI (ORBITER DATA) (AFE112)

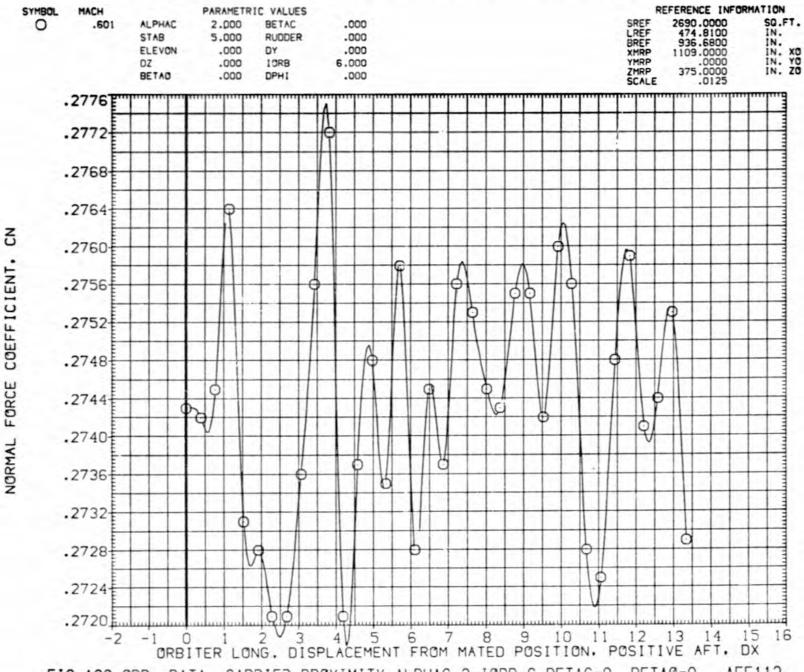


FIG.103 ORB. DATA, CARRIER PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, AFE112

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE112)

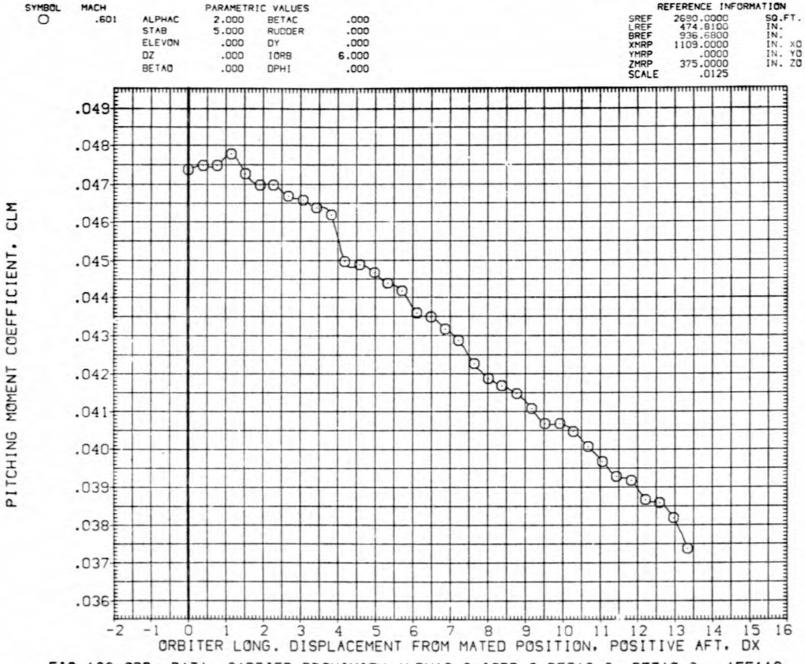


FIG.103 ORB. DATA, CARRIER PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, AFE112



LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE112)

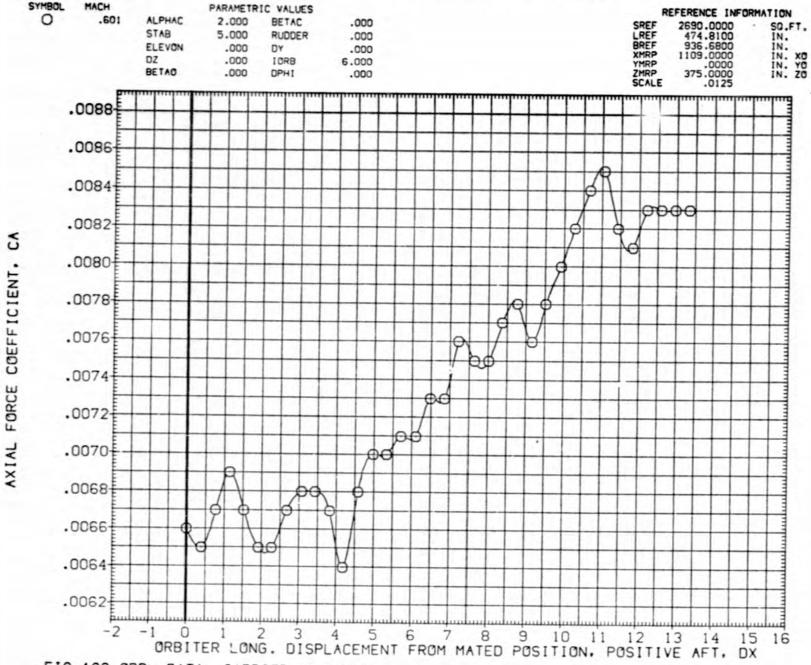


FIG.103 ORB. DATA, CARRIER PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, AFE112

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE112)

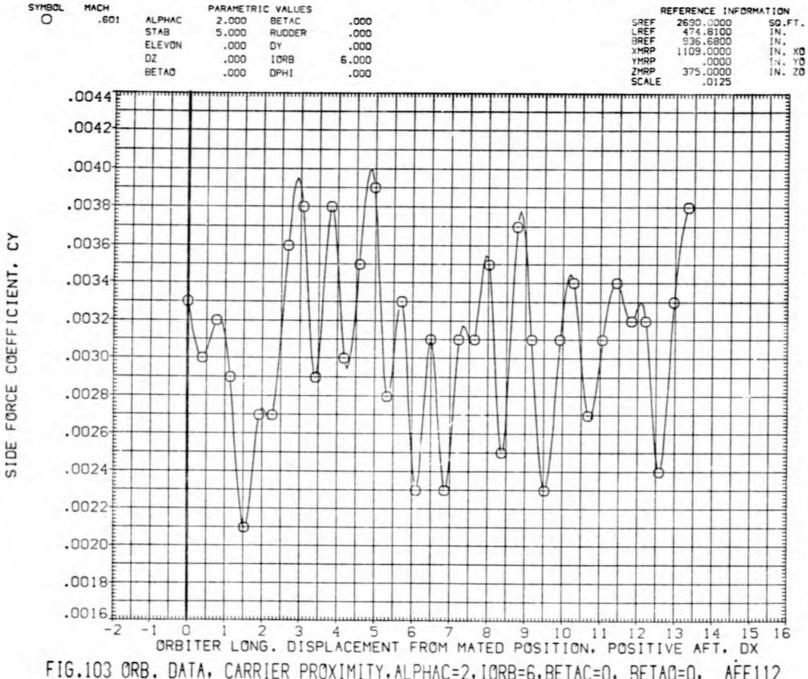
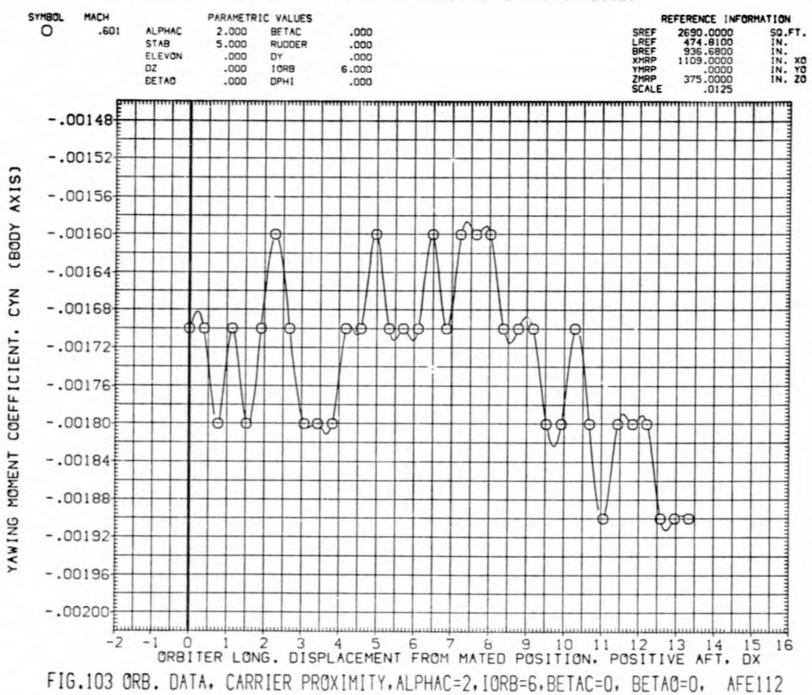


FIG.103 ORB. DATA, CARRIER PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, AFE112 PAGE 796

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE112)



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LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE112)

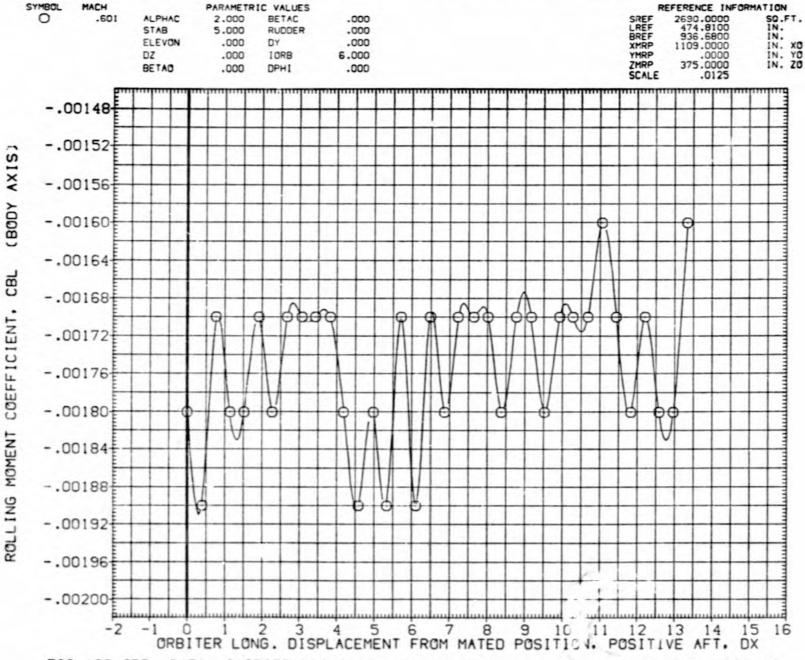


FIG.103 ORB. DATA, CARRIER PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAC=0, AFE112



LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE112)

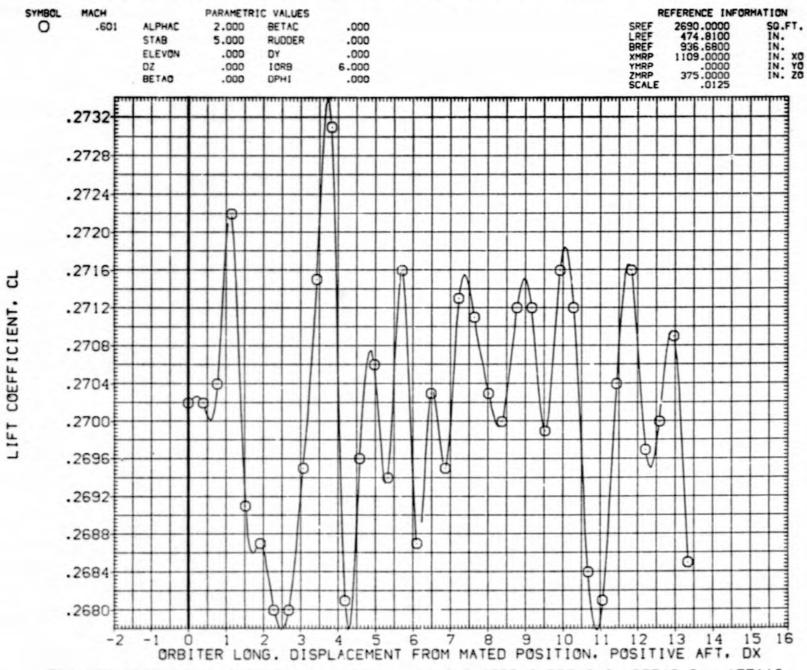


FIG.103 ORB. DATA, CARRIER PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, AFE112

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE112)

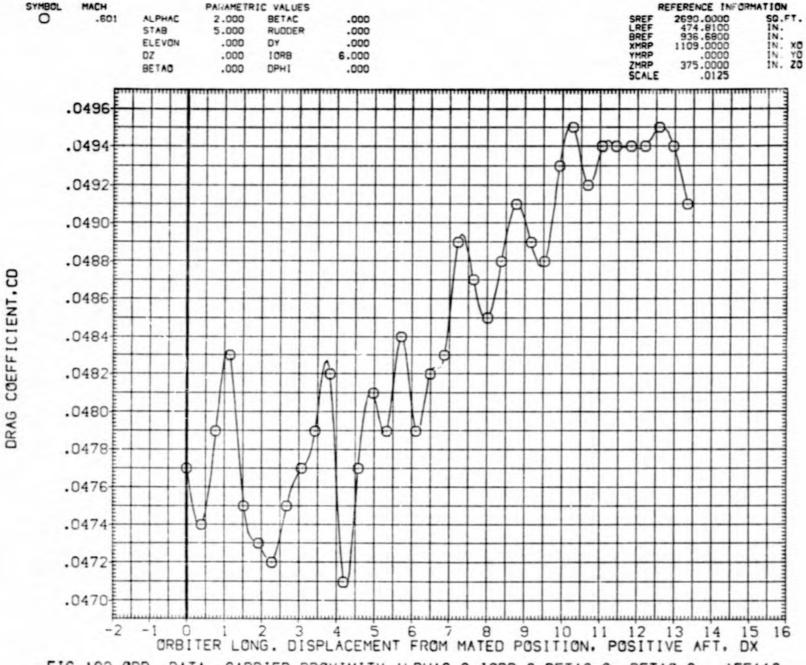


FIG.103 ORB. DATA, CARRIER PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, AFE112

LTV44-559(CA26) 747/1 ATY 06 SI (ORBITER DATA) (AFE113)

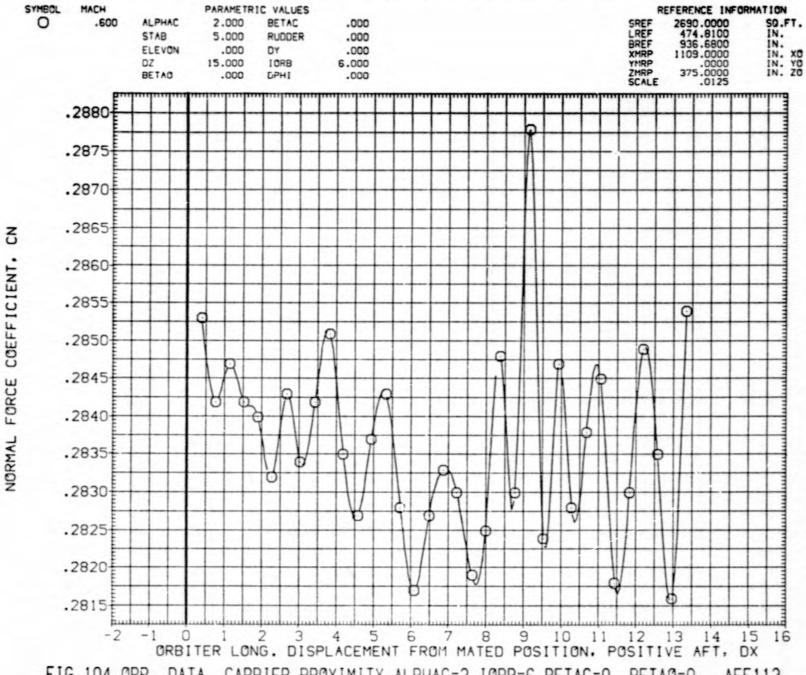


FIG.104 ORB. DATA, CARRIER PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, AFE113

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE113)

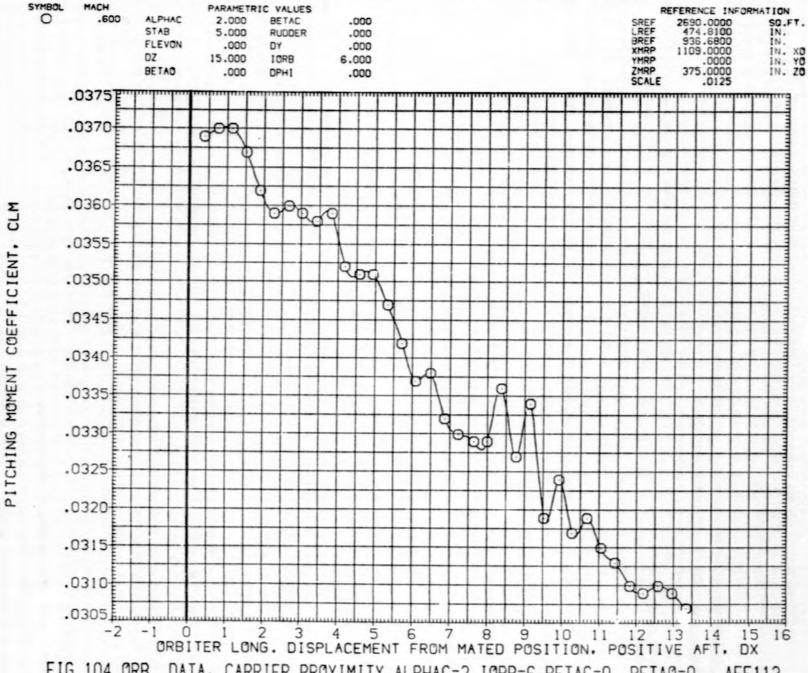
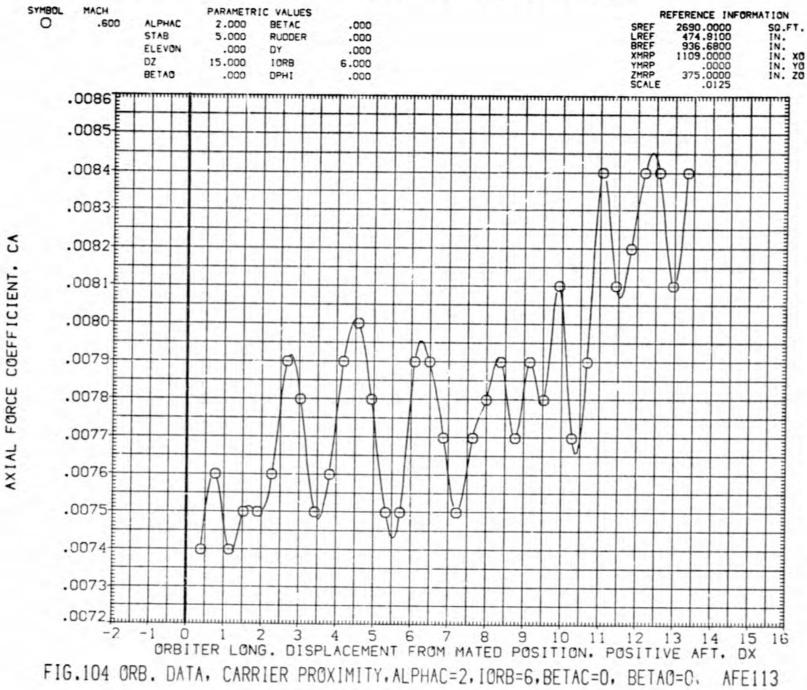
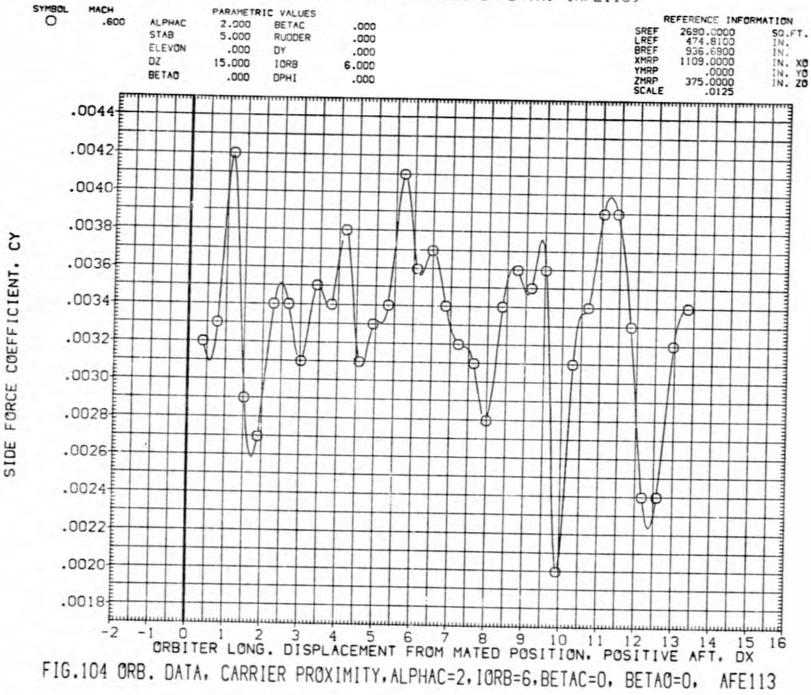


FIG.104 ORB. DATA, CARRIER PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, AFE113

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE113)

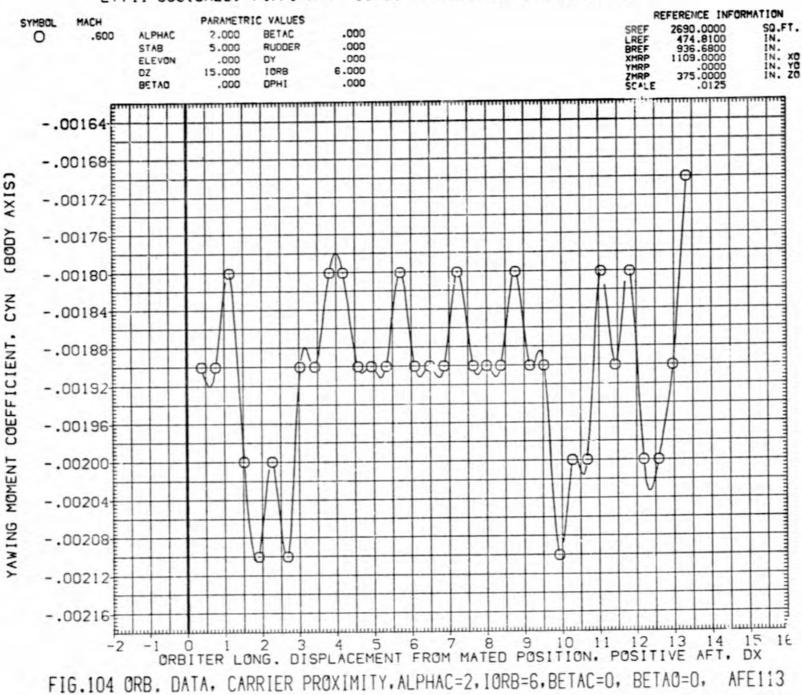


LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE113)



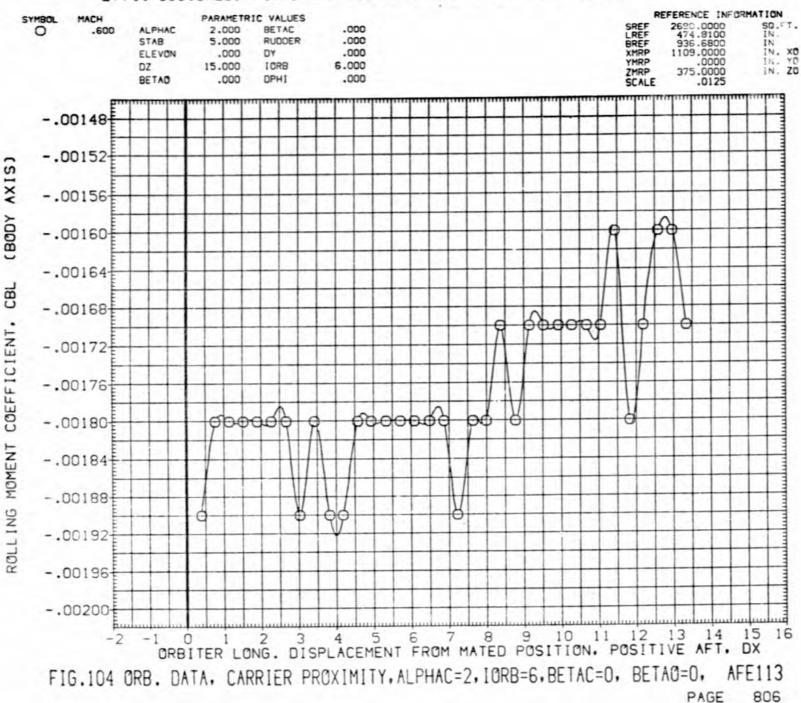
LTV44-559(CA26) 747/1 ATY 06 SI (ORBITER DATA) (AFE113)

0



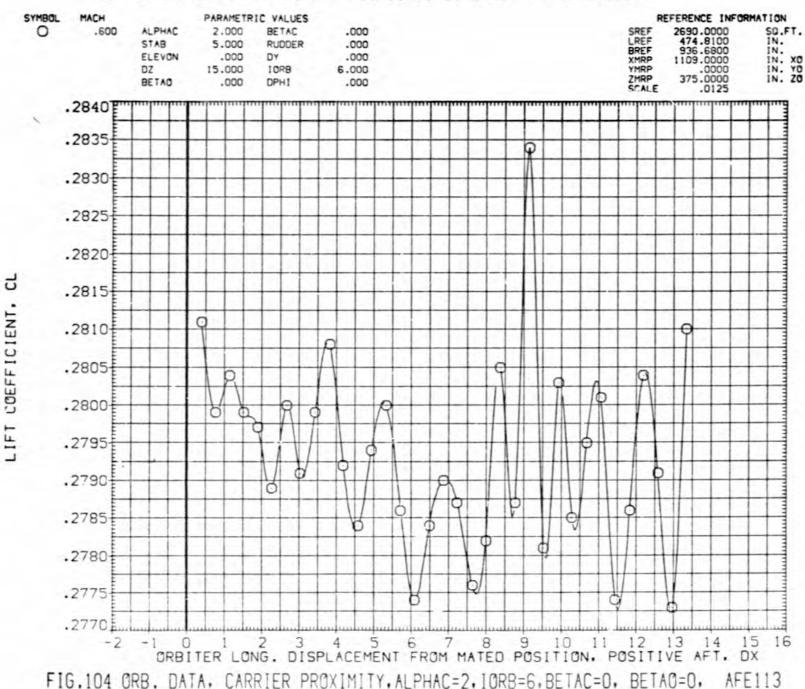
PAGE

LTV44-559(CA26) 747/1 ATY 06 S1 (MGBITER DATA) (AFE113)



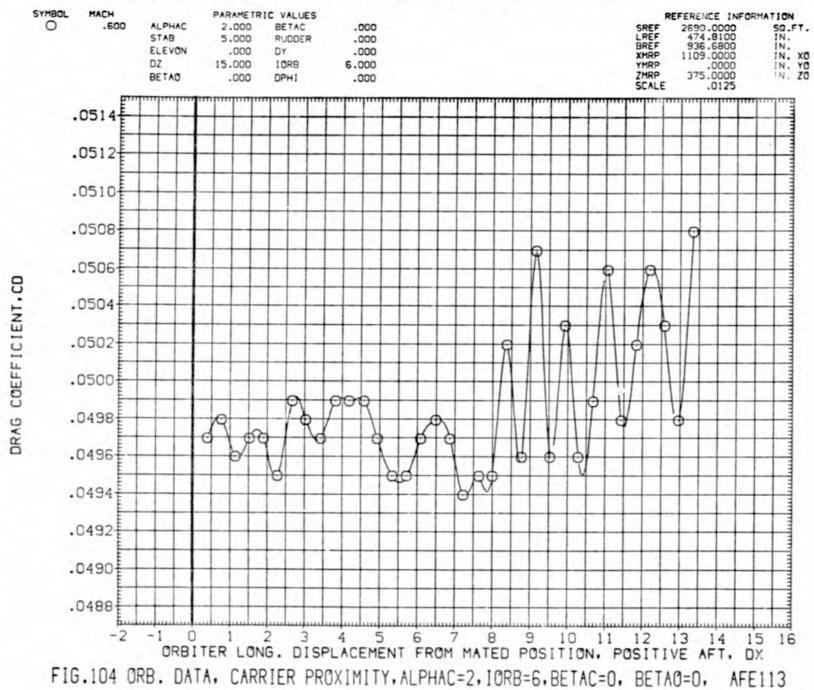
LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE113)

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LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE113)



LTV44-559(CA26) 747/1 ATY 06 SI (ORBITER DATA) (AFE114)

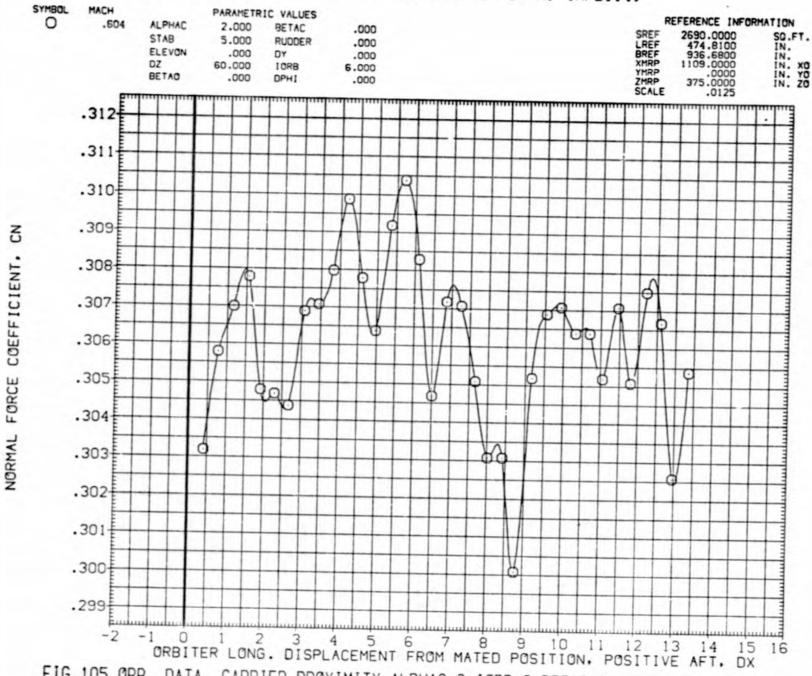


FIG. 105 ORB. DATA, CARRIER PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, AFE114

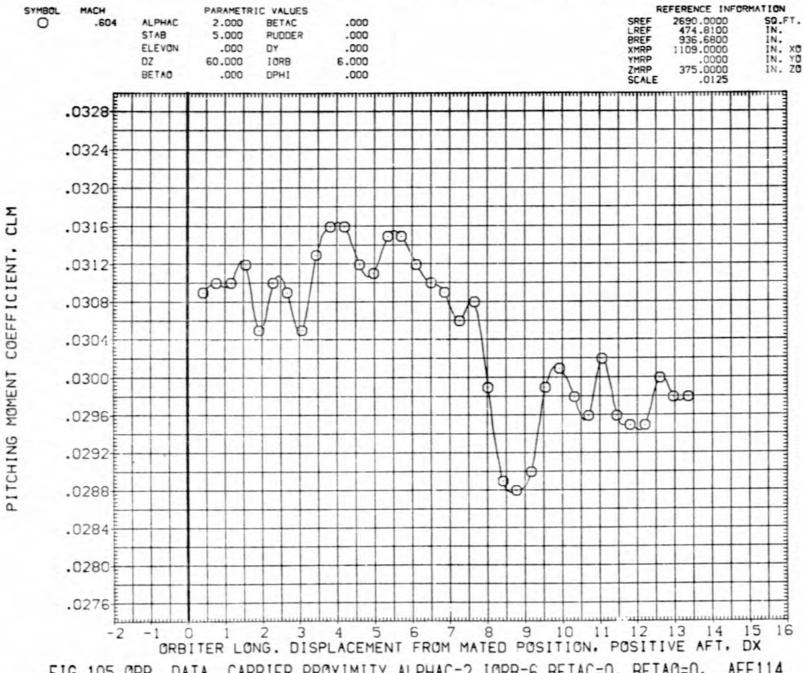
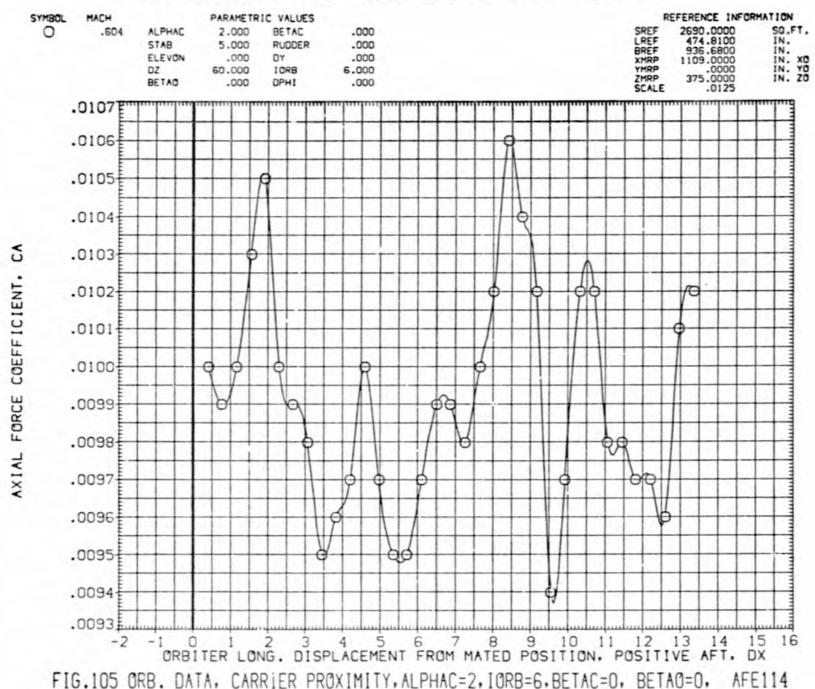
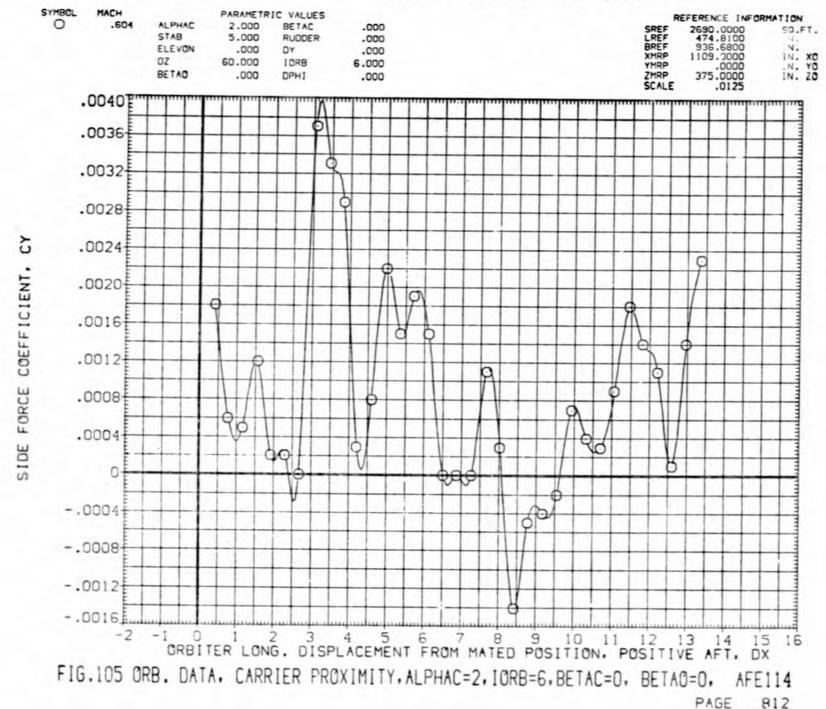


FIG.105 ORB. DATA, CARRIER PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, AFE114

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE114)

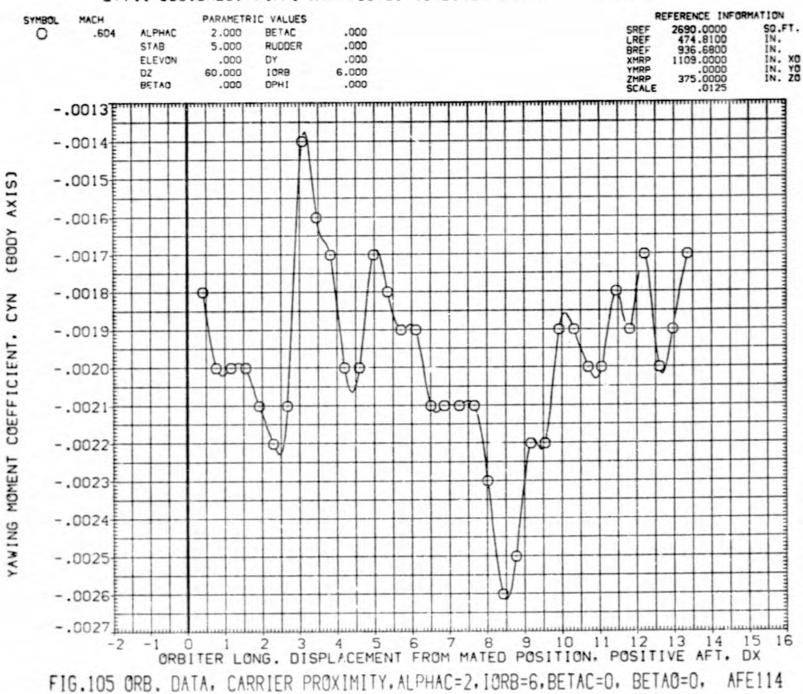


LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE114)



LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE114)

0



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LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE114)

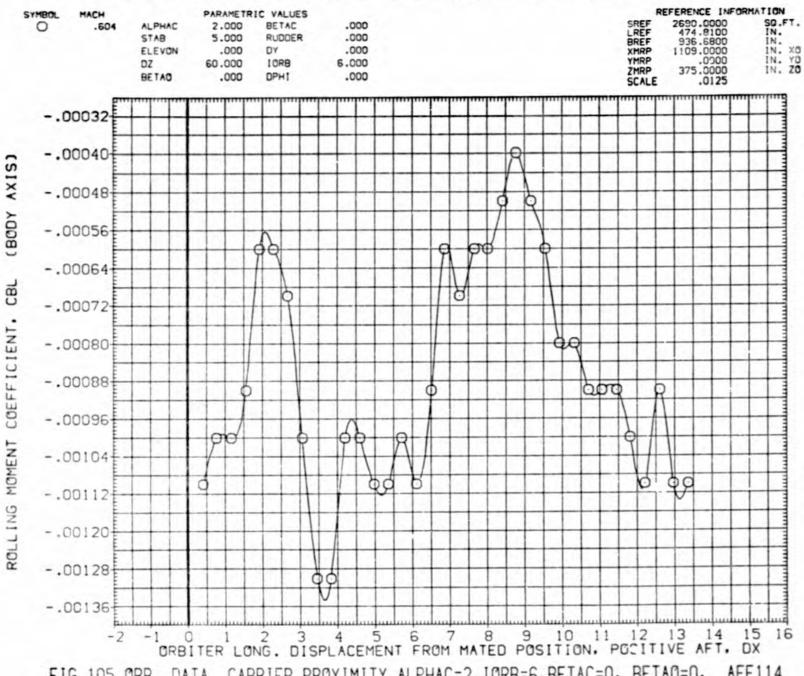


FIG.105 ORB. DATA, CARRIER PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, AFE114

LTV44-559(CA26) 747/1 ATY 06 SI (ORBITER DATA) (AFE114)

0

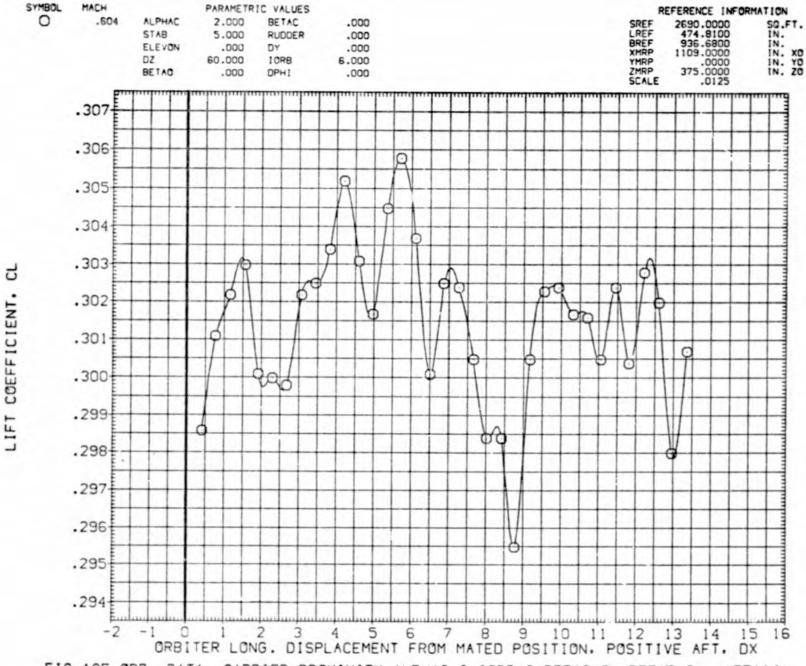


FIG.105 ORB. DATA, CARRIER PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, AFE114

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE114)

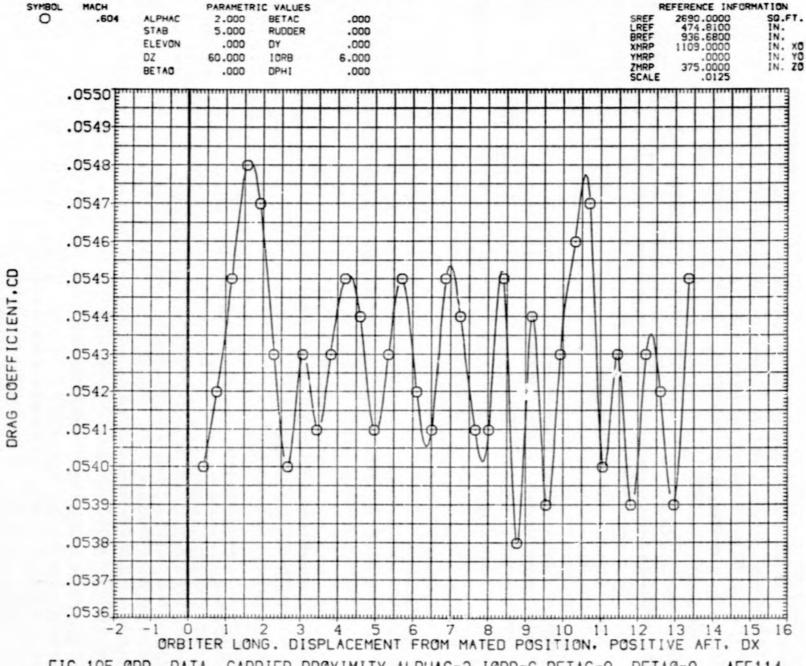


FIG.105 ORB. DATA, CARRIER PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, AFE114

LTV44-559(CA26) 747/1 ATY 06 SI (ORBITER DATA) (AFE115)

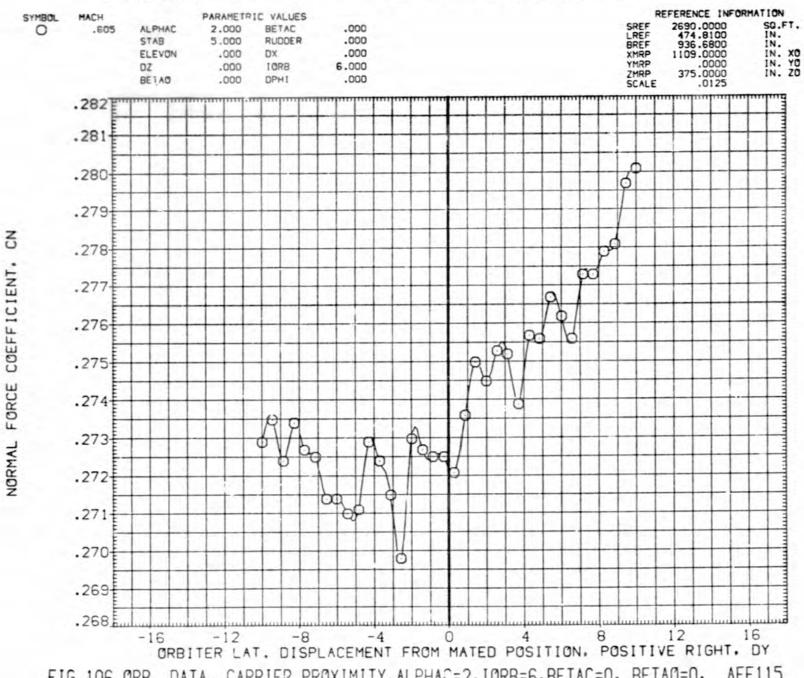


FIG.106 ORB. DATA, CARRIER PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, AFE115

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE115)

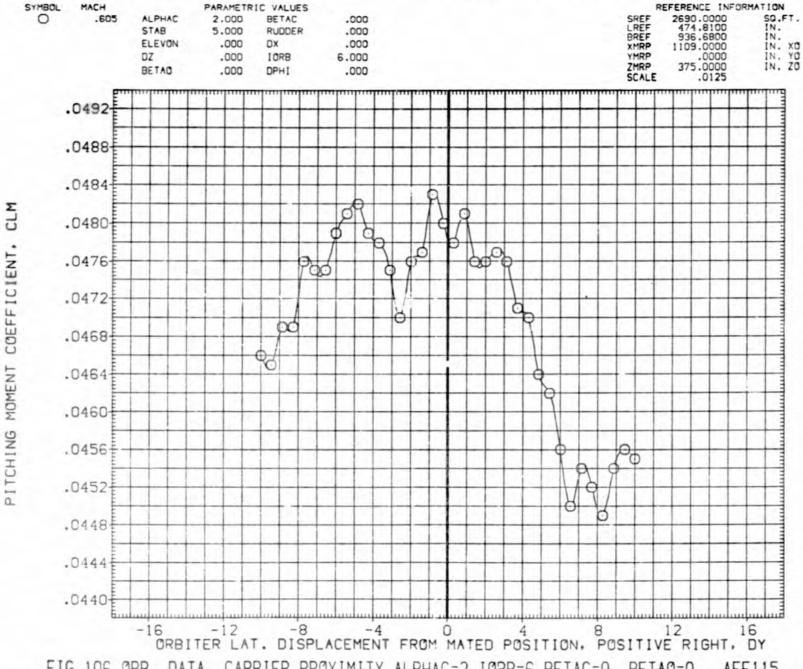
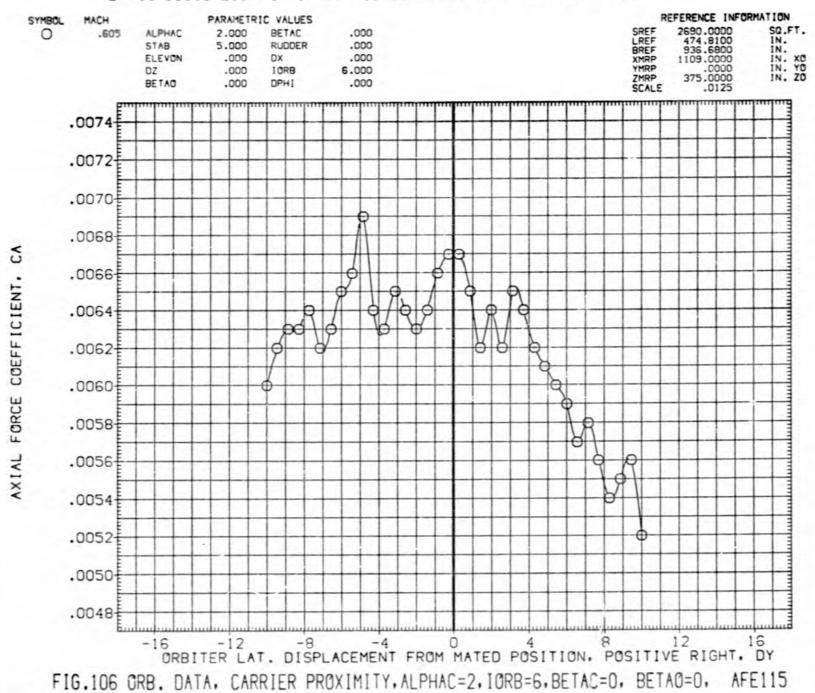


FIG.106 ORB. DATA, CARRIER PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, AFE115

LTV44-559(CA26) 747/1 ATY 06 SI (ORBITER DATA) (AFE115)



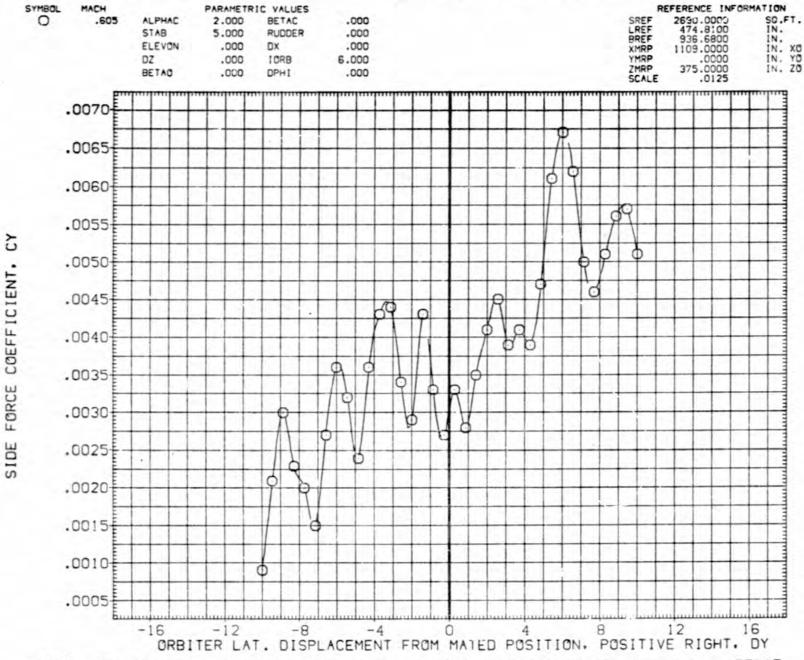


FIG.106 ORB. DATA, CARRIER PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAC=0, AFE115

LTV44-559(CA26) 747/1 ATY 06 SI (ORBITER DATA) (AFE115)

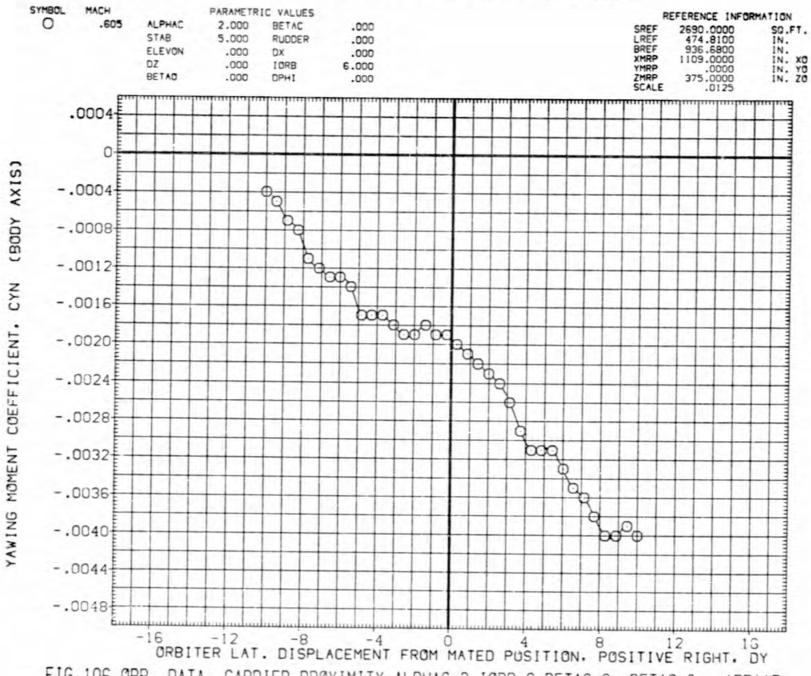


FIG. 106 ORB. DATA, CARRIER PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, AFE115

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE115)

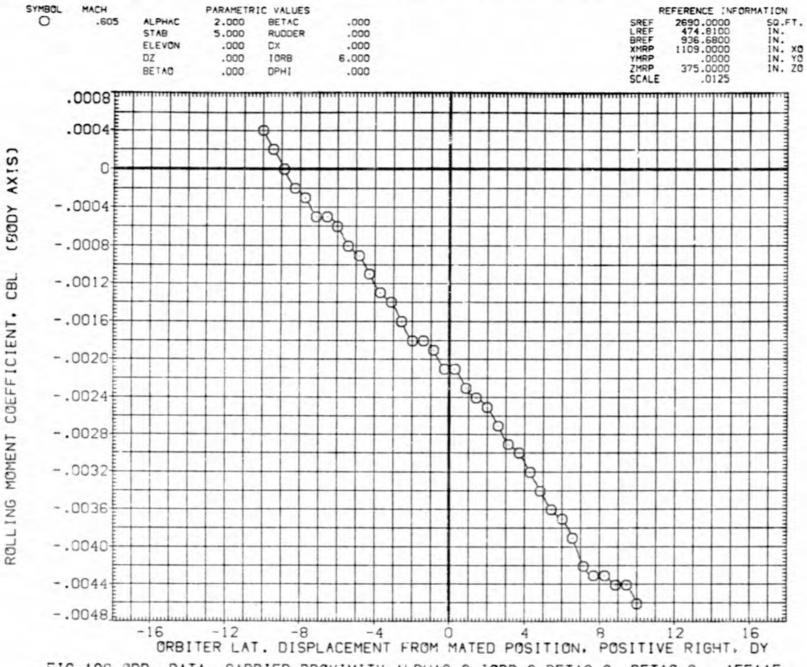
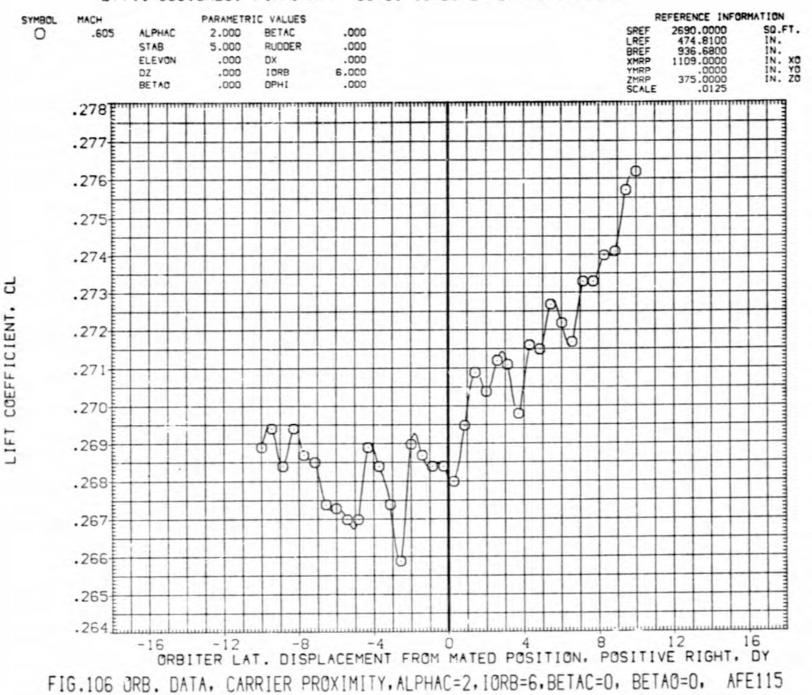


FIG.106 ORB. DATA, CARRIER PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, AFE115

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE115)



LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE115)

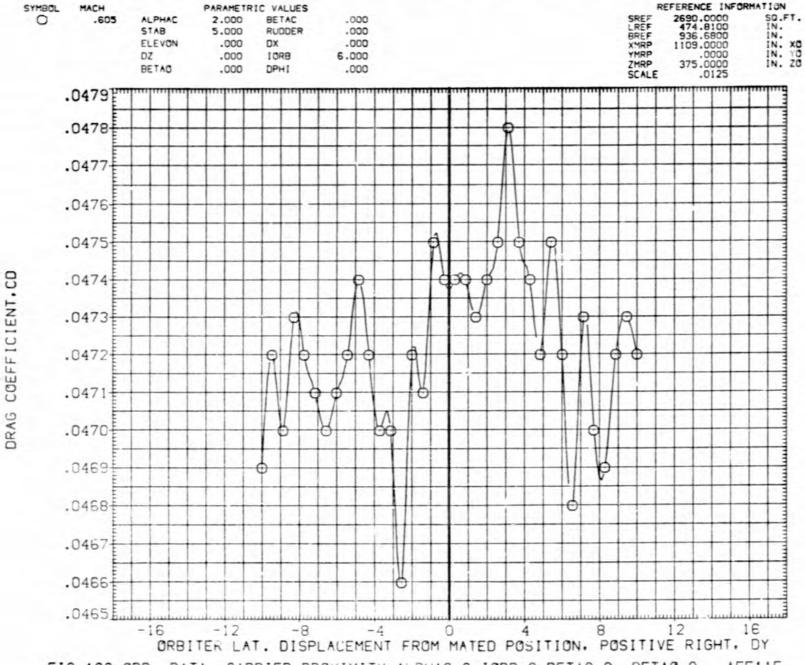
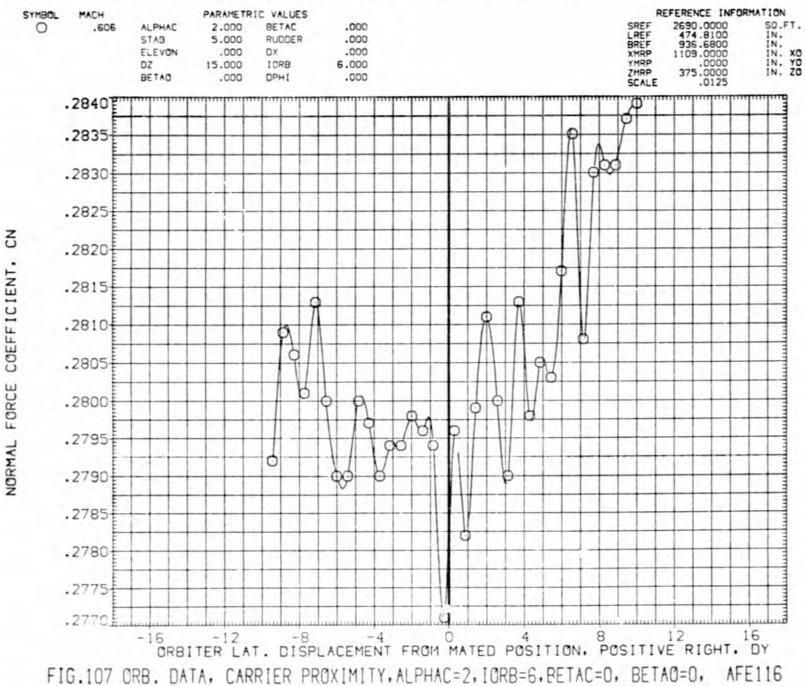
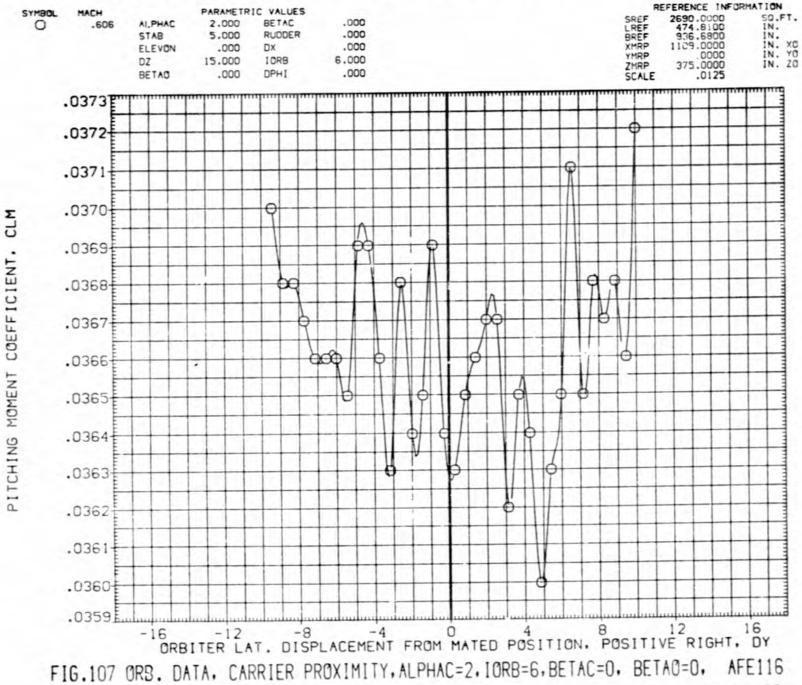


FIG.106 ORB. DATA. CARRIER PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAC=0, AFE115

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE116)

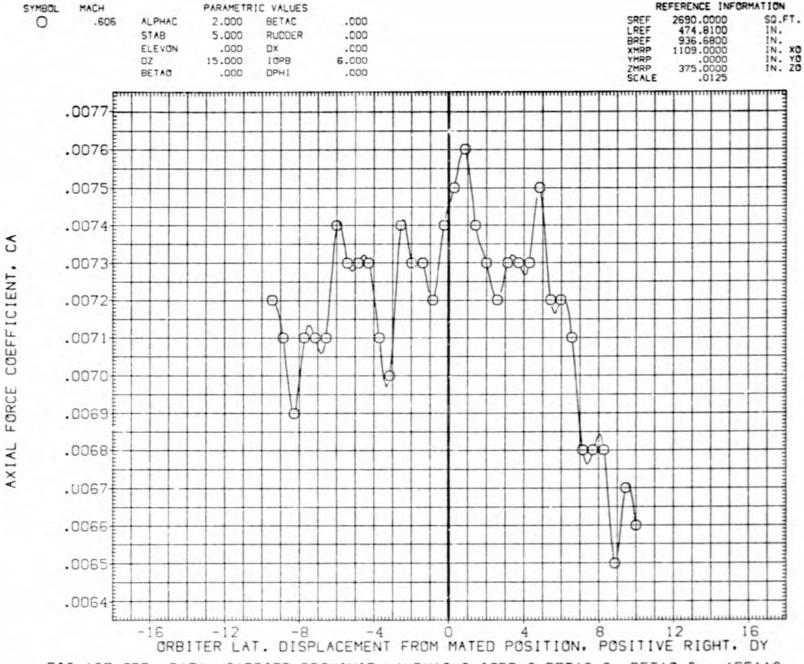


LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE116)



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LTV44-559(CA26) 747/1 ATY 06 SI (ORBITER DATA) (AFE116)



LTV44-559(CA26) 747/1 ATY 06 SI (ORBITER DATA) (AFE116)

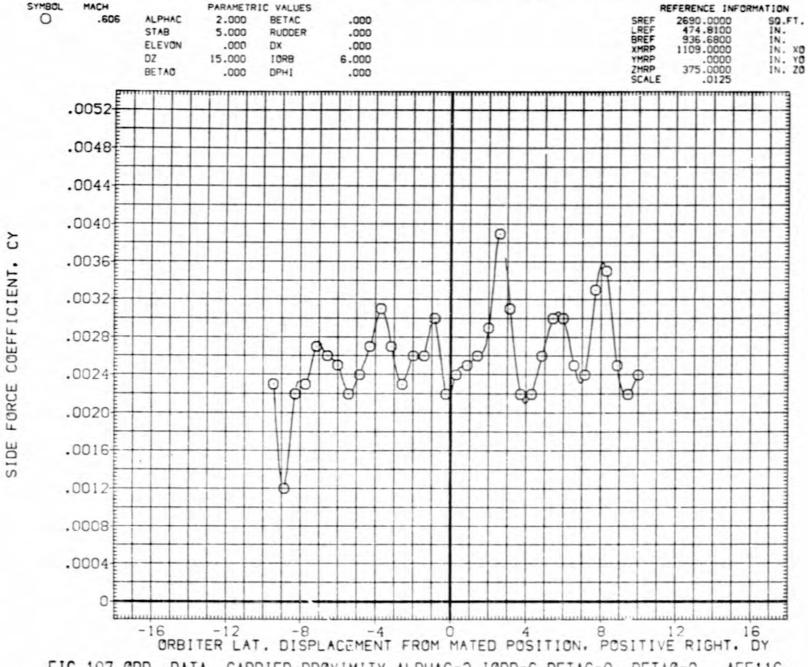
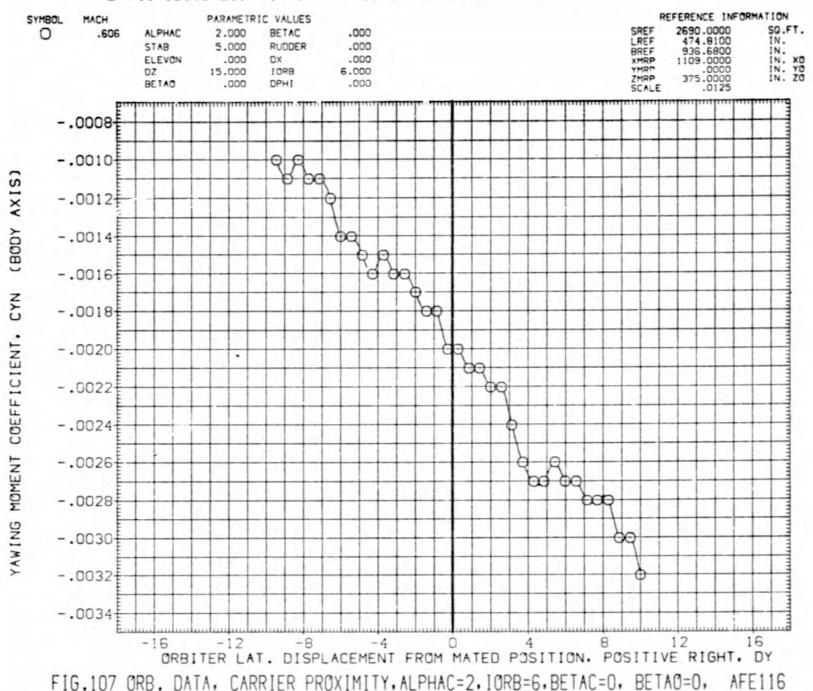


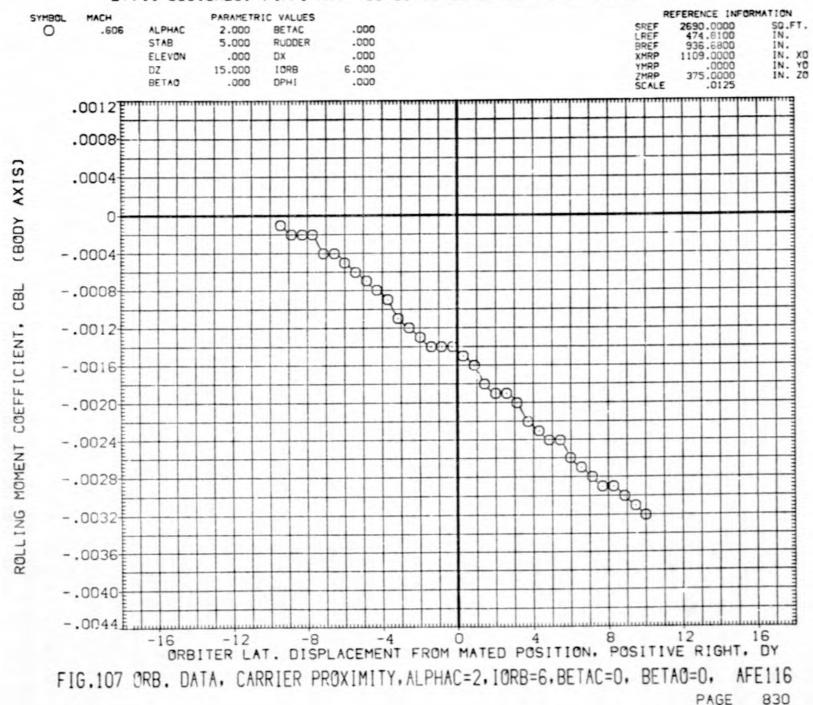
FIG.107 ORB. DATA, CARRIER PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAC=0, AFE116

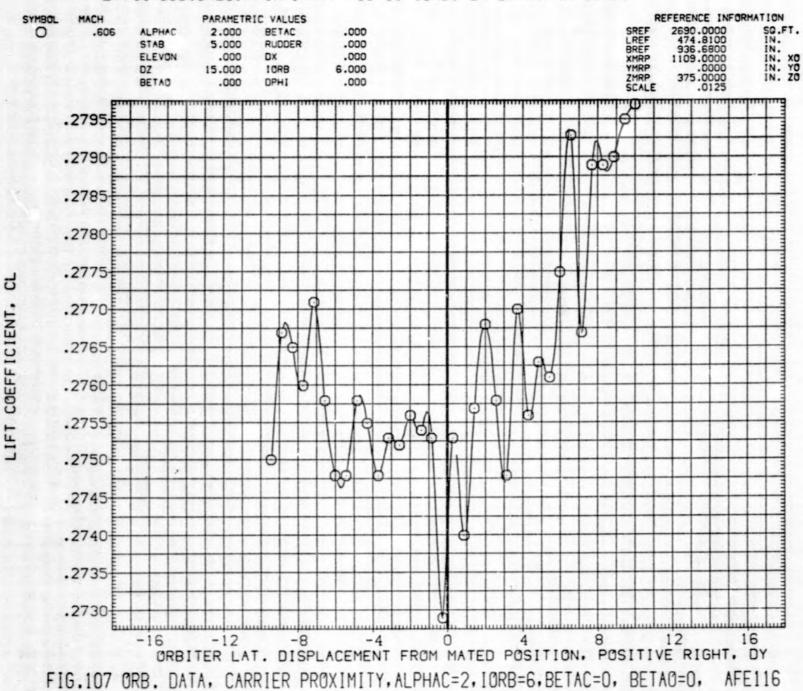
LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE116)



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LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE116)





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LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE116)

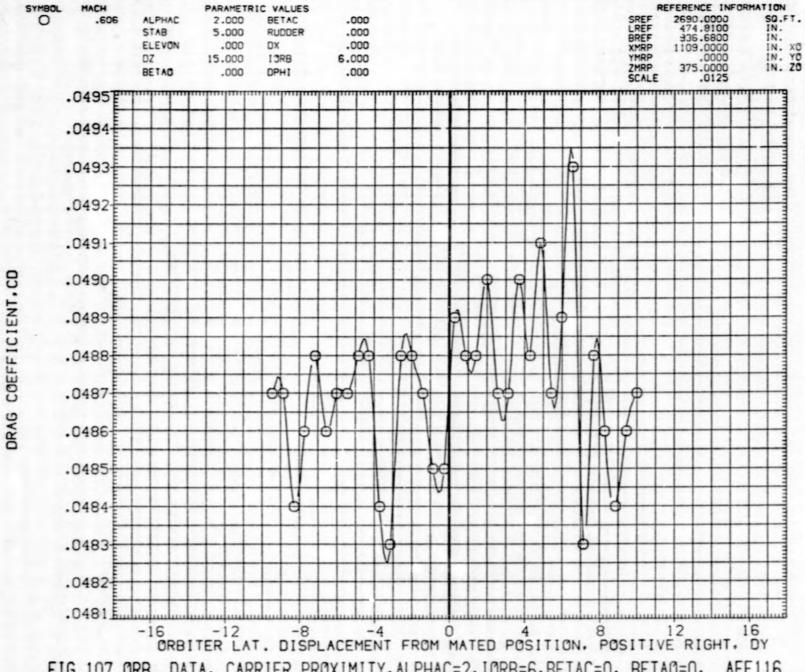
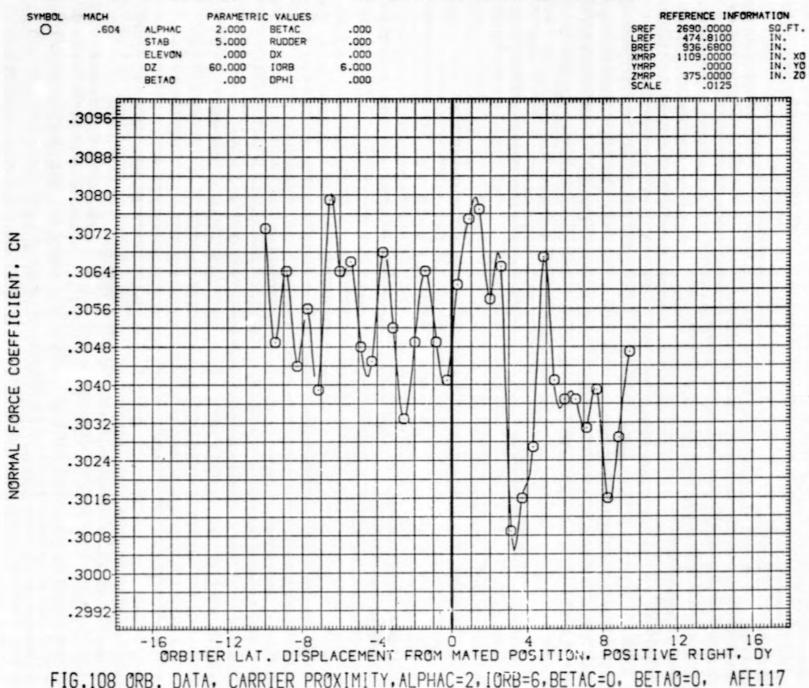


FIG.107 ORB. DATA, CARRIER PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, AFE116

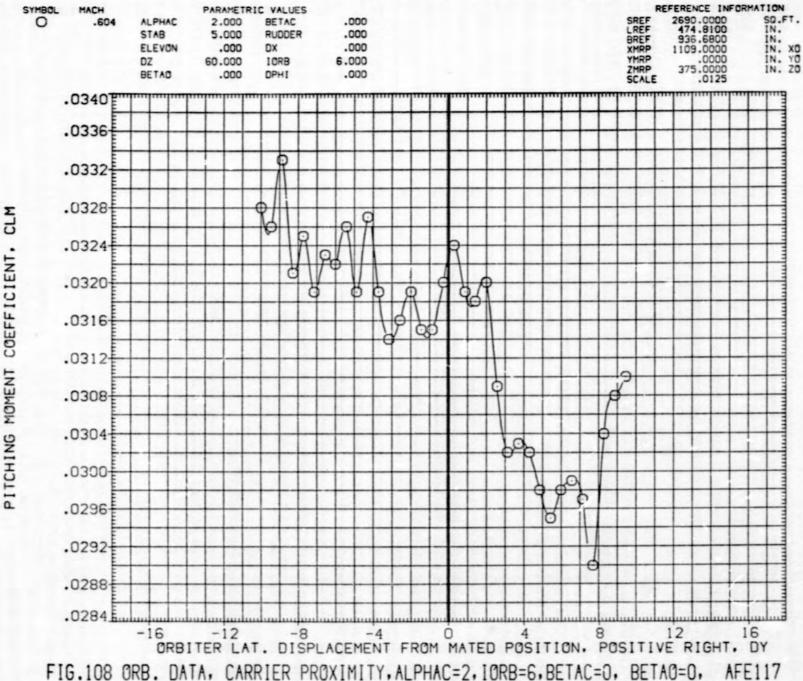
LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE117)



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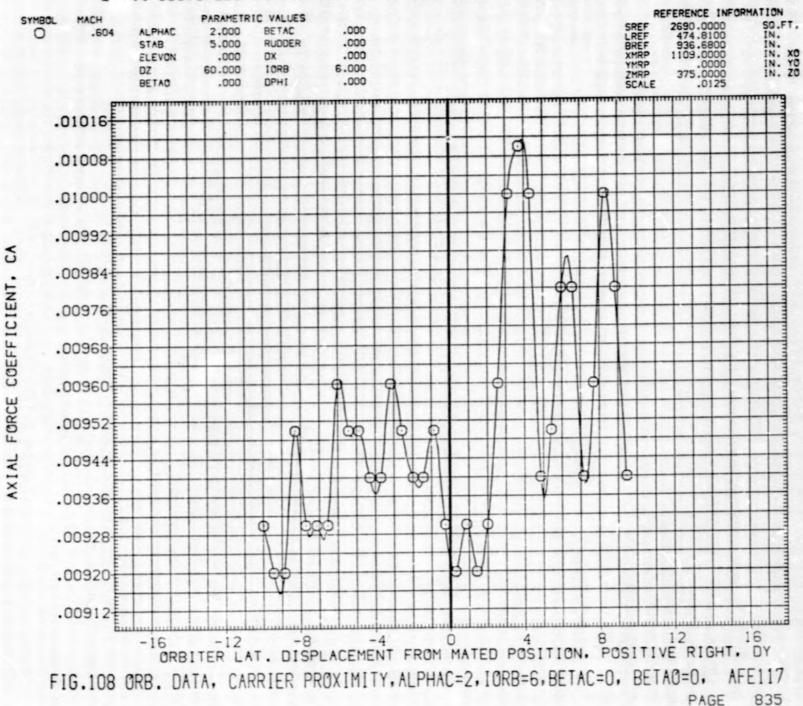
833

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE117)

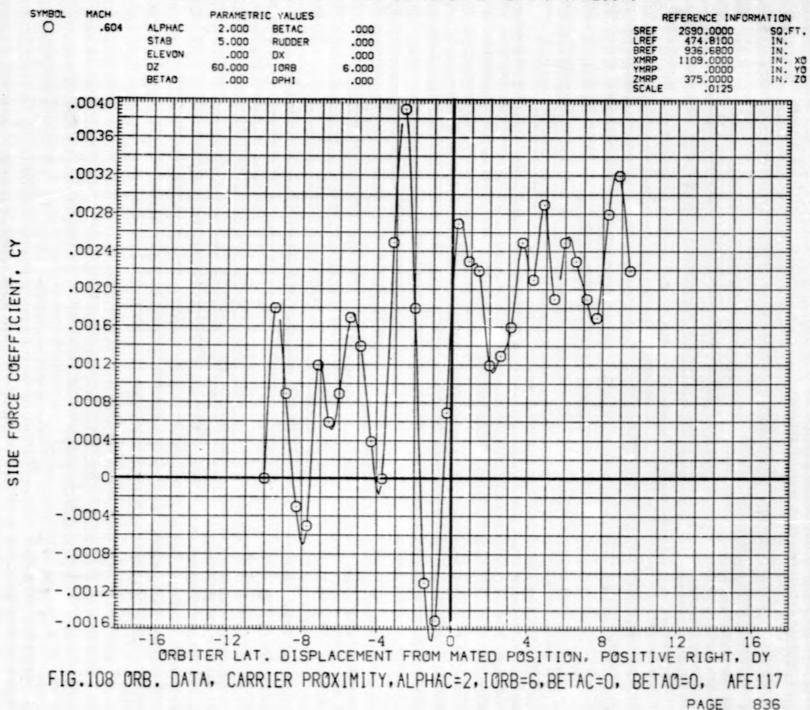


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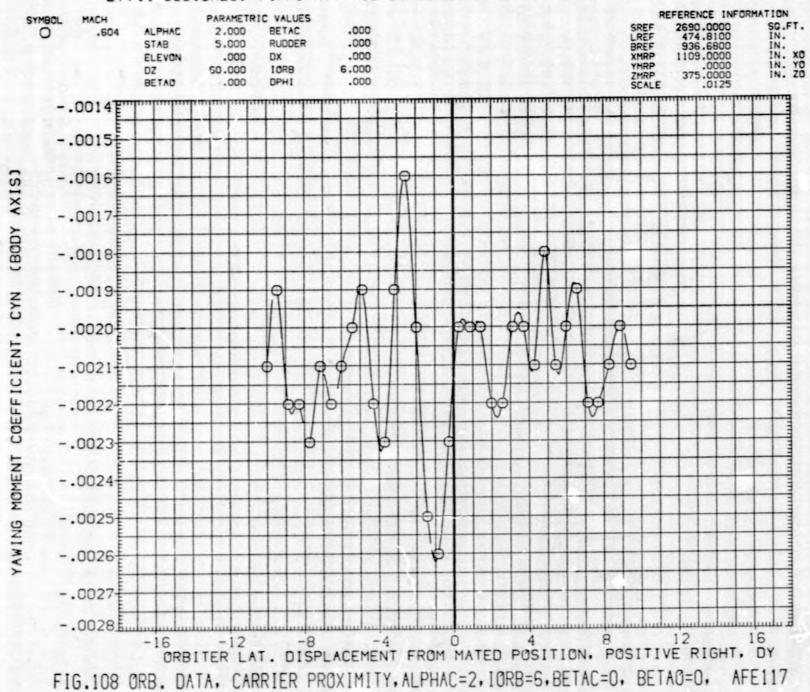
LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE117)



LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE117)

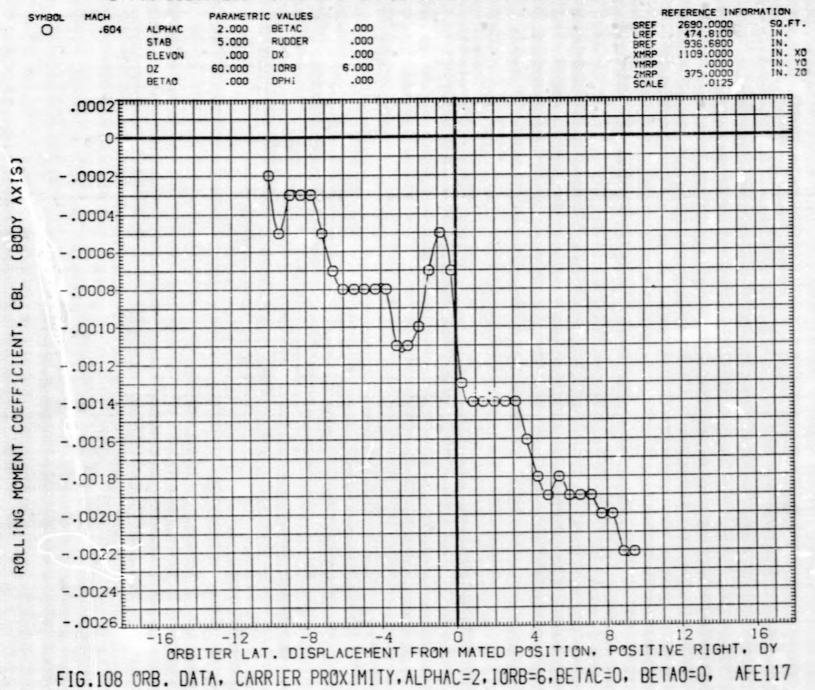


LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE117)



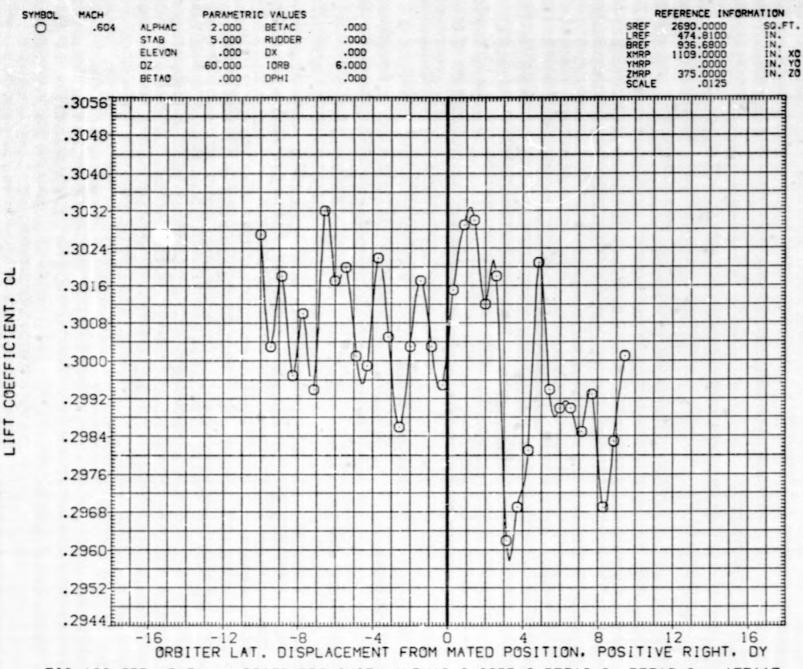
837

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE117)

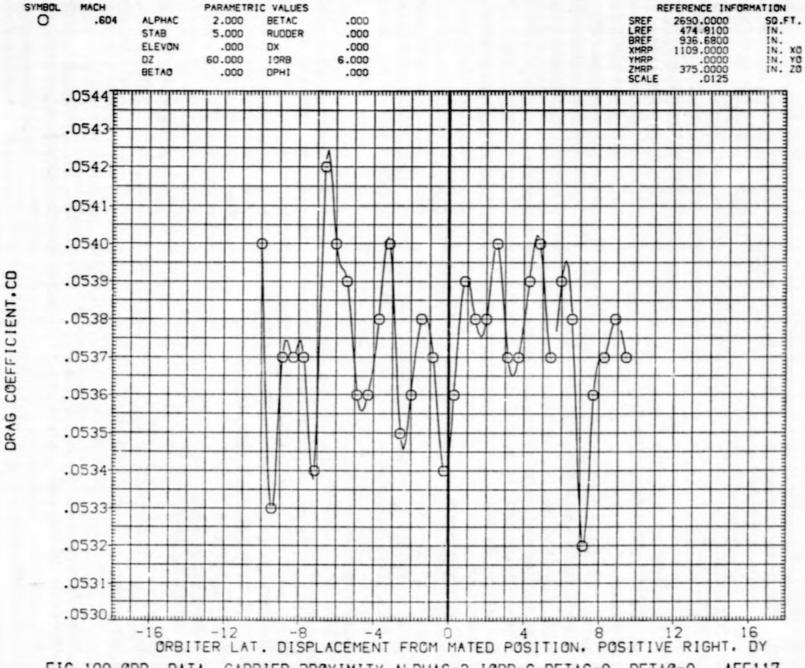


838

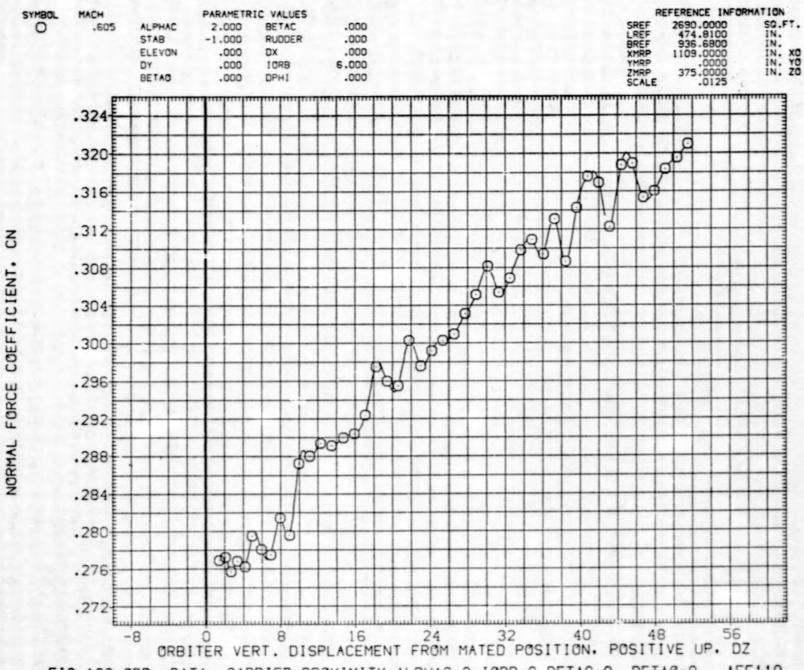
LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE117)



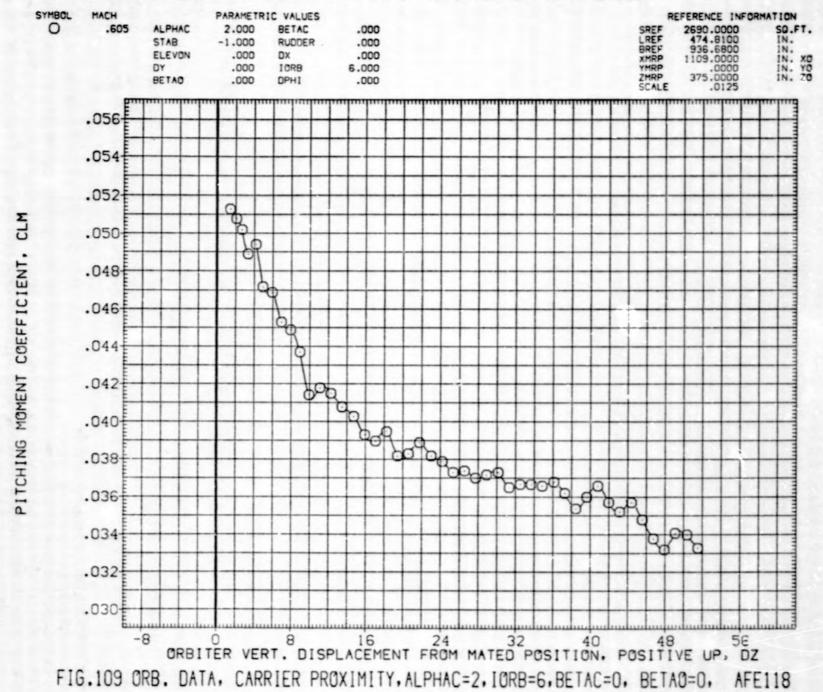
LTV44-559(CA26) 747/1 ATY 06 SI (ORBITER DATA) (AFE117)



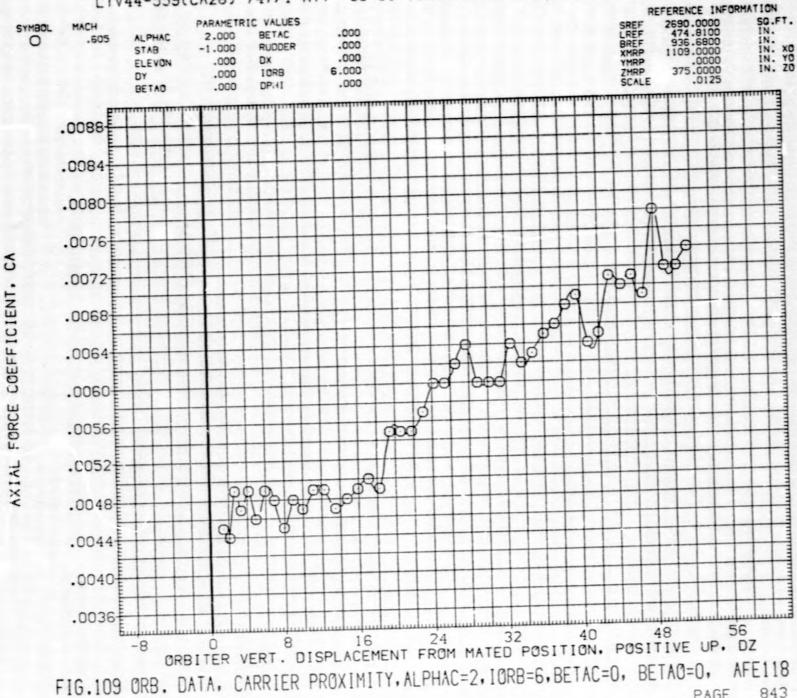
LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE118)



LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE118)



LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE118)



843

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE118)

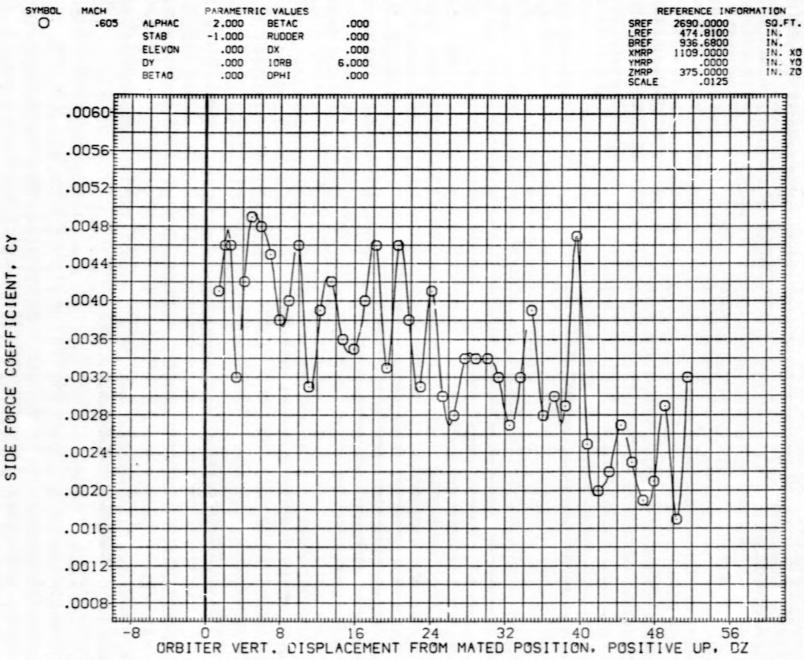
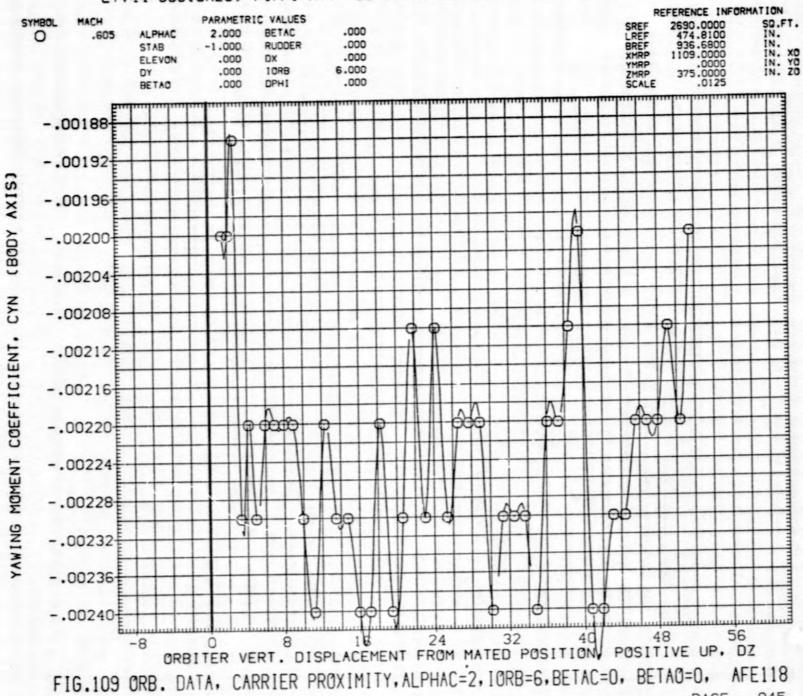


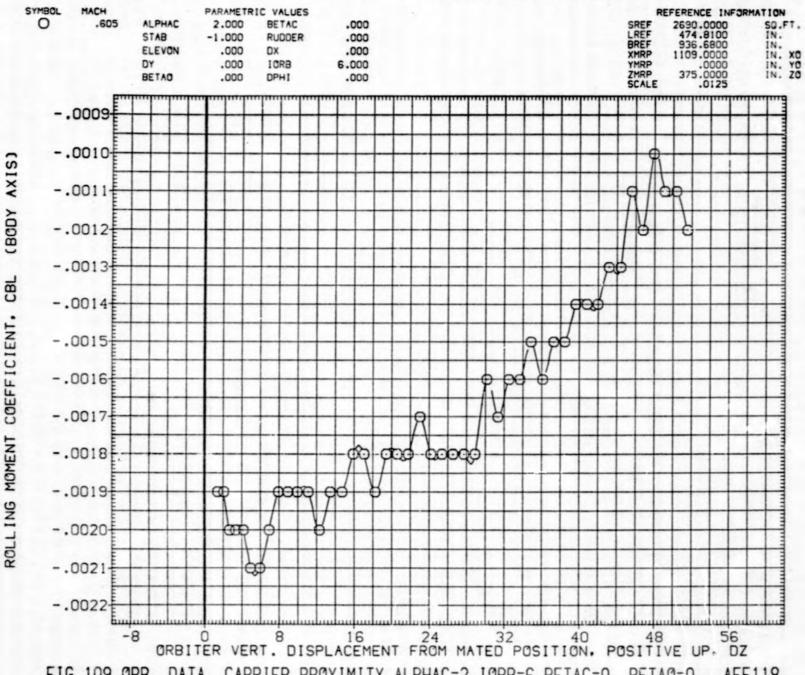
FIG.109 ORB. DATA, CARRIER PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, AFE118

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE118)

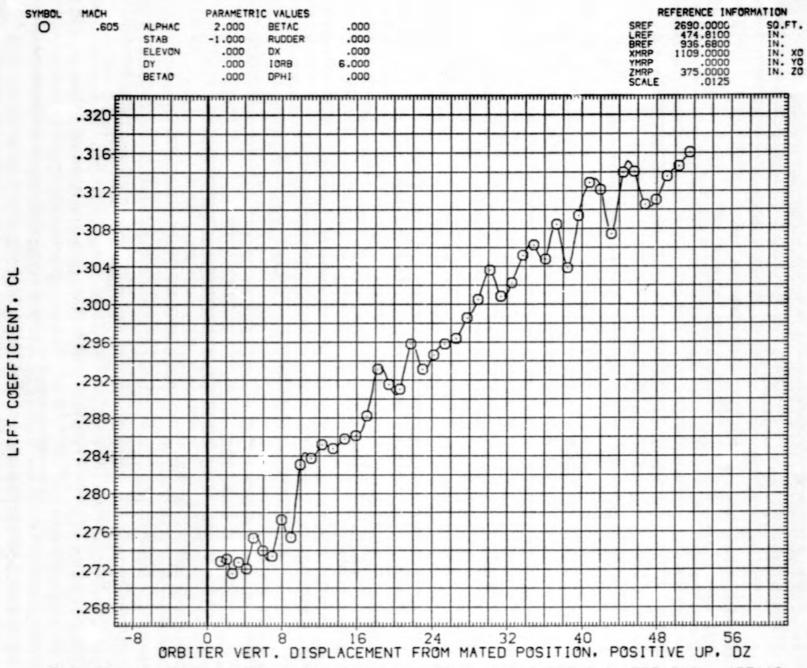


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LTV44-559(CA26) 747/1 ATY 06 SI (ORBITER DATA) (AFE118)



LTV44-559(CA26) 747/1 ATY 06 SI (ORBITER DATA) (AFE118)



LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE118)

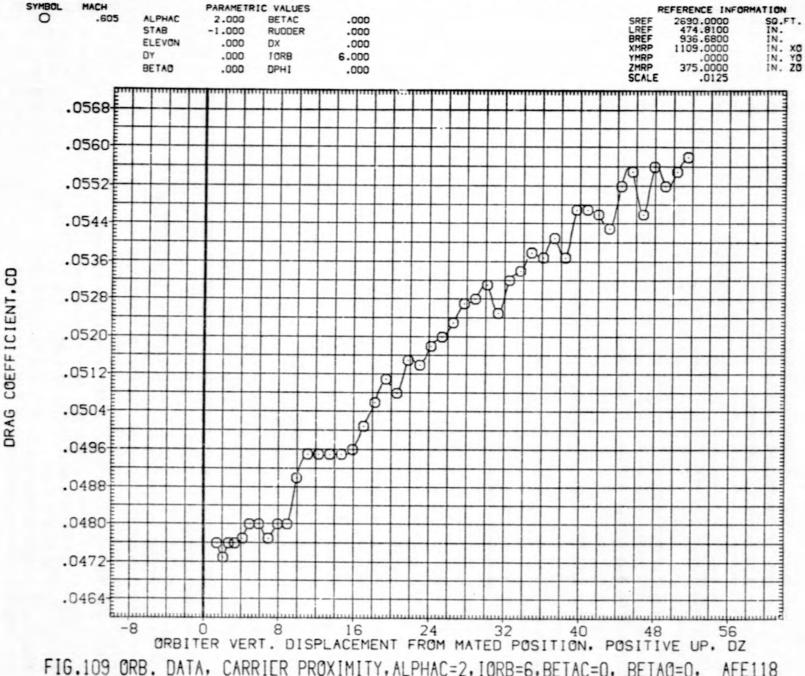
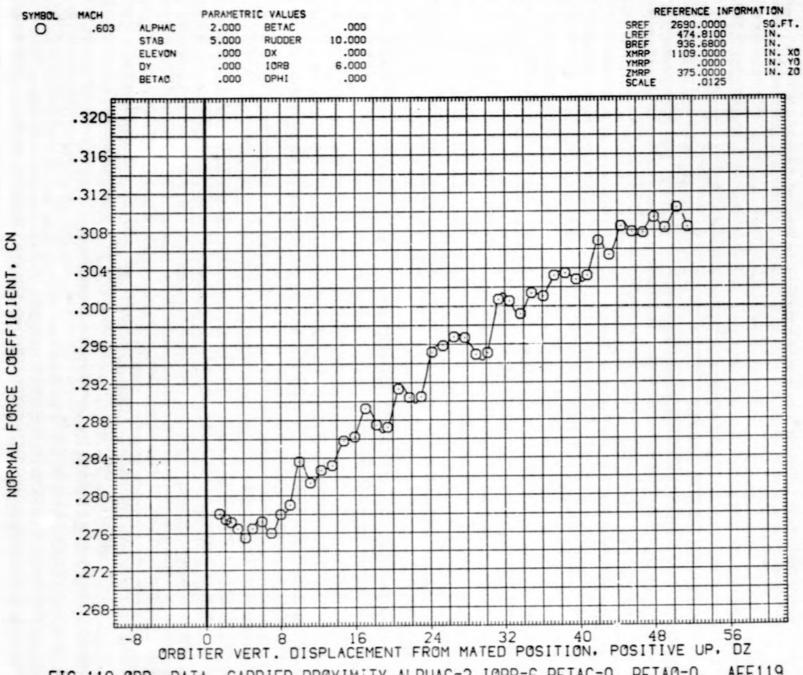
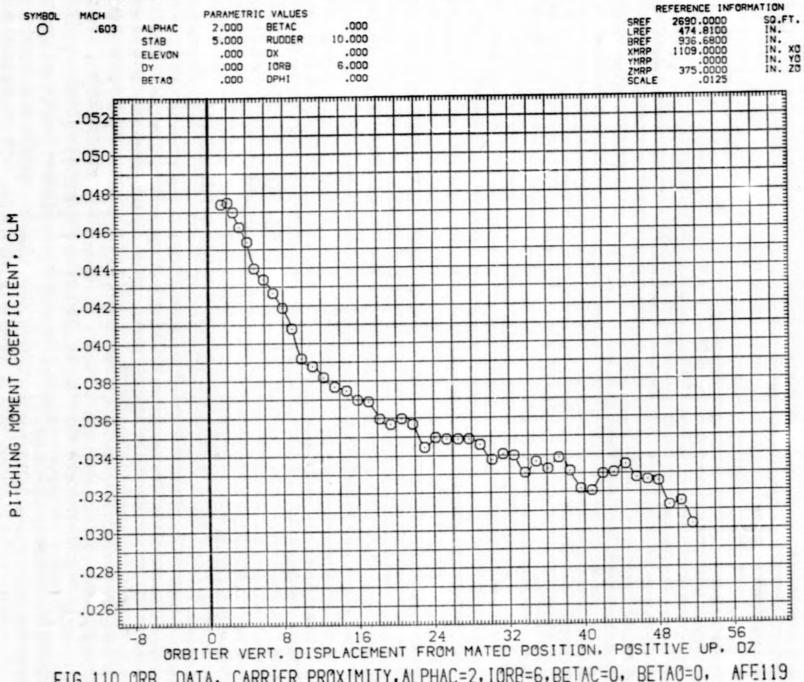


FIG.109 ORB. DATA, CARRIER PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, AFE118

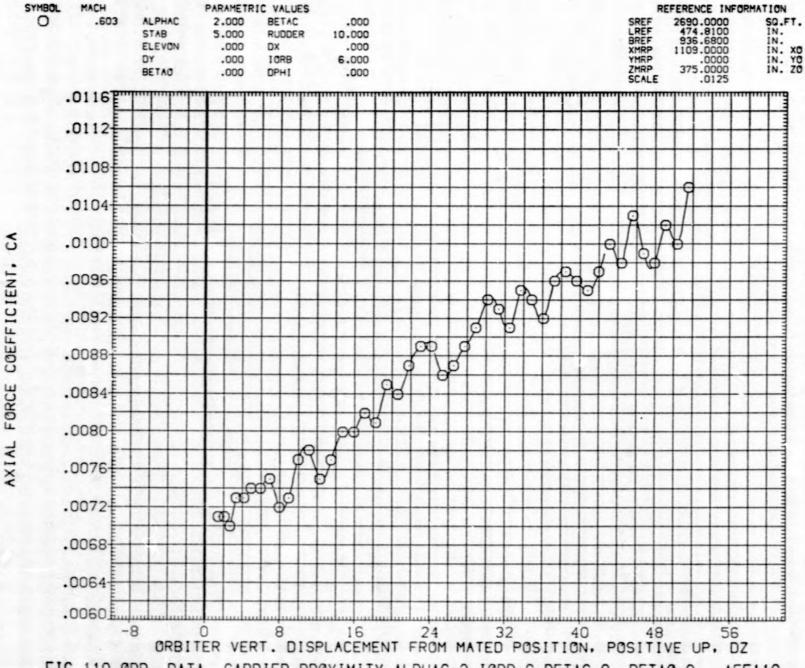
LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE119)



LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE119)



LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE119)



LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE119)

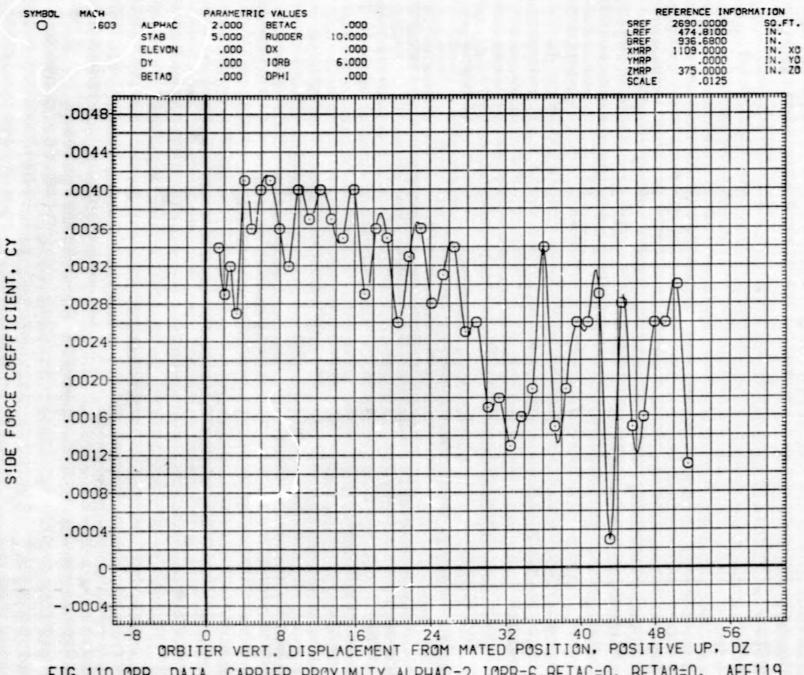
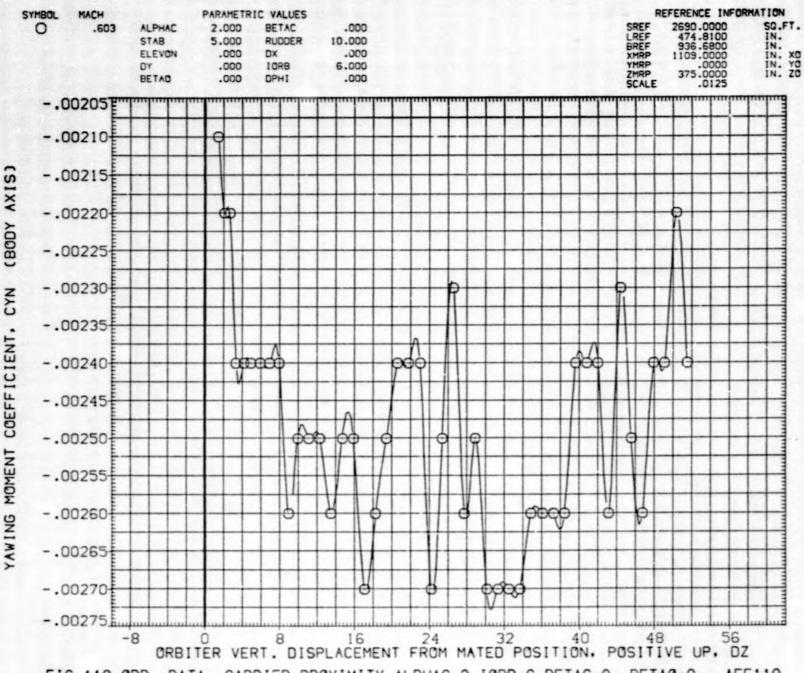
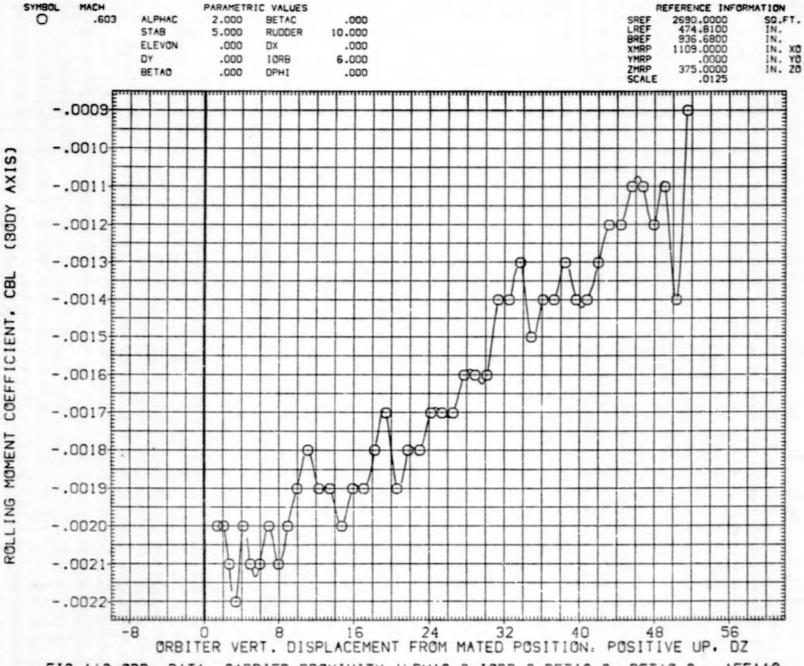


FIG.110 ORB. DATA, CARRIER PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, AFE119

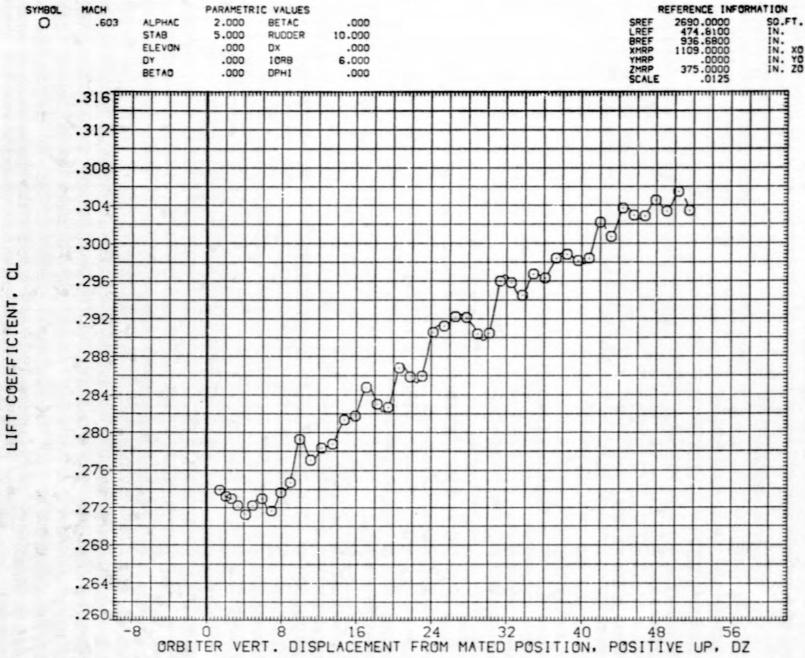
LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE119)



LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE119)



LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE119)



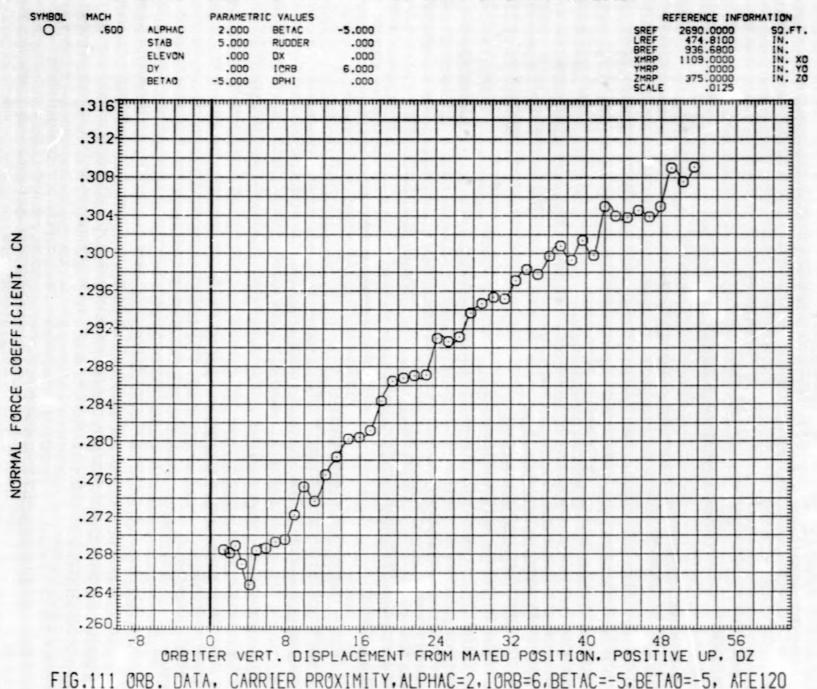
LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE119)



FIG.110 ORB. DATA, CARRIER PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAC=0, AFE119

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE120)

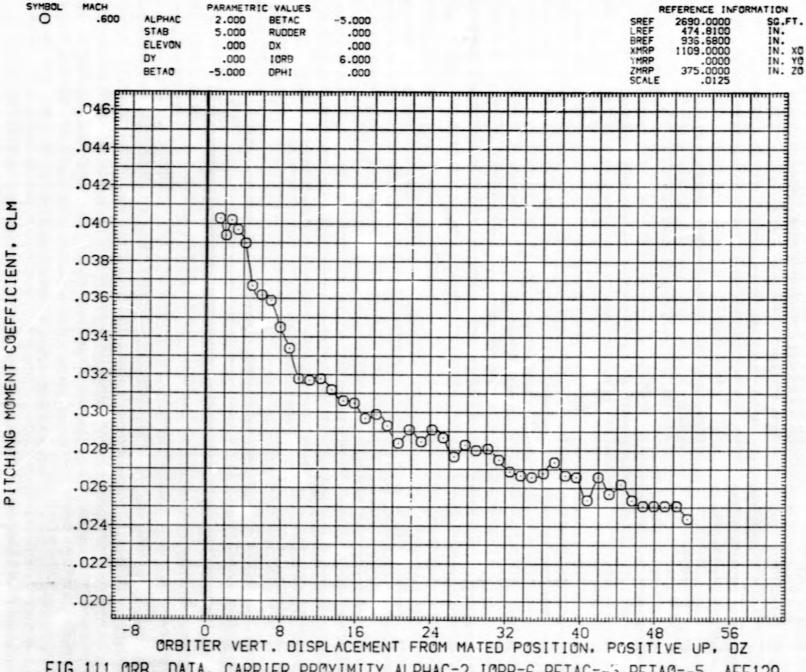
9



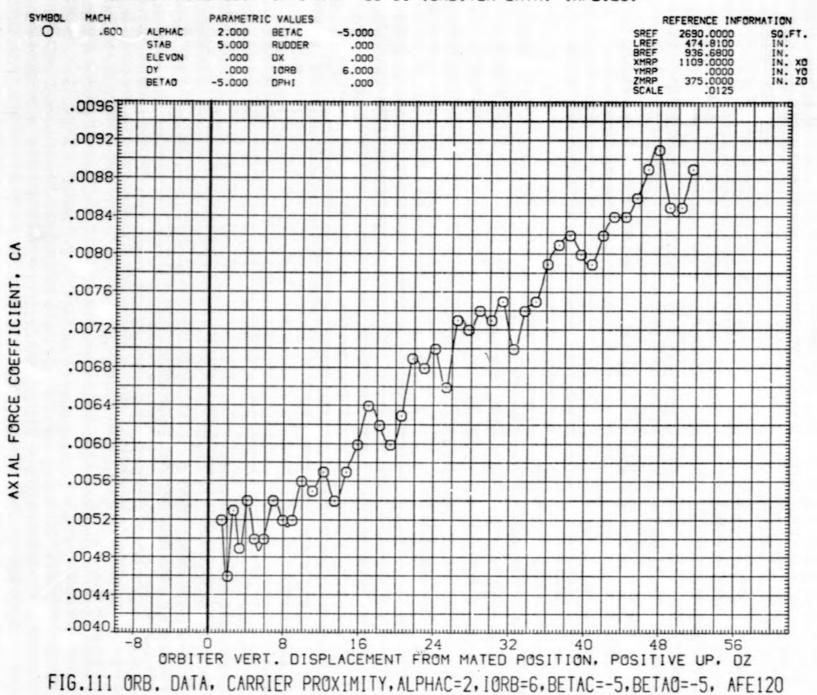
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LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE120)



LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE120)



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LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE120)

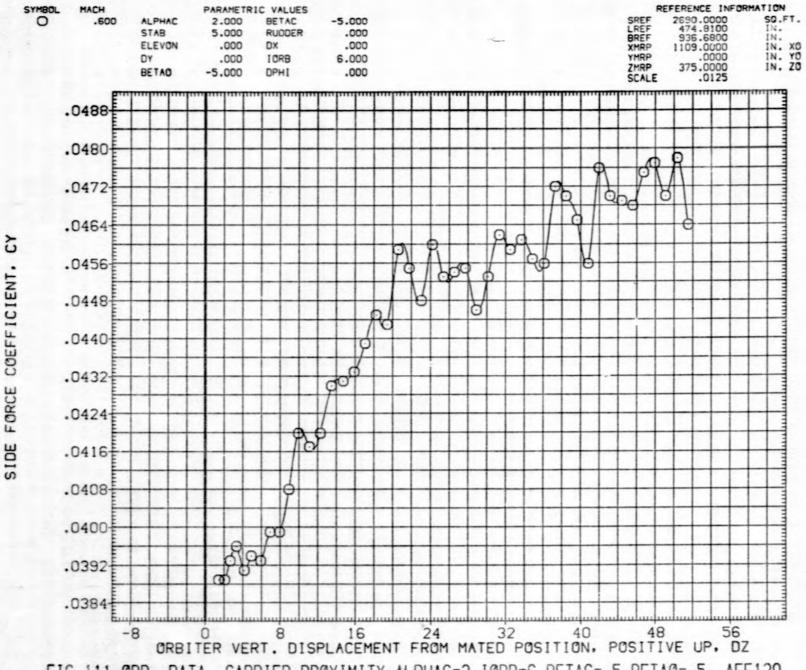
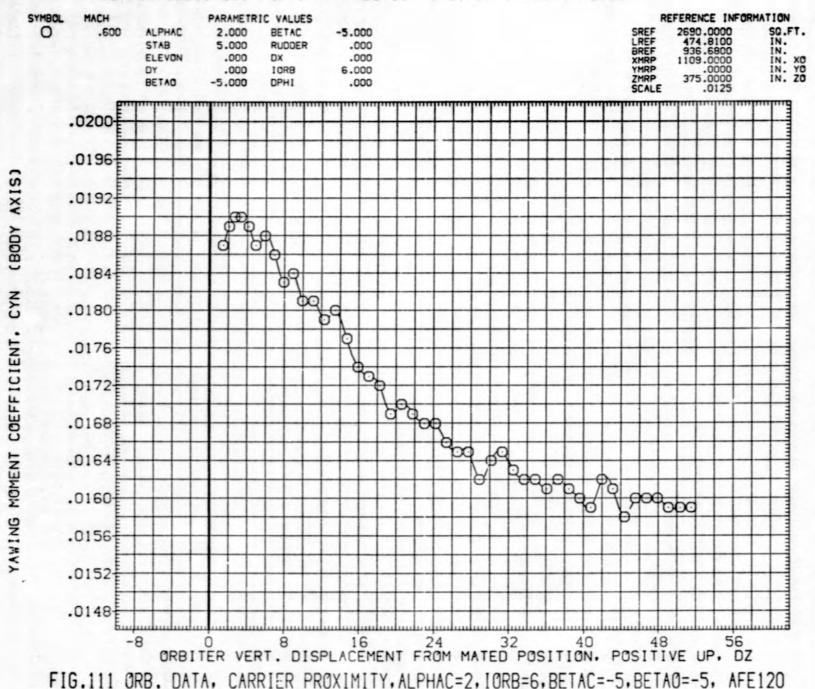


FIG.111 ORB. DATA, CARRIER PROXIMITY, ALPHAC=2, IORB=6, BETAC=-5, BETAO=-5, AFE120

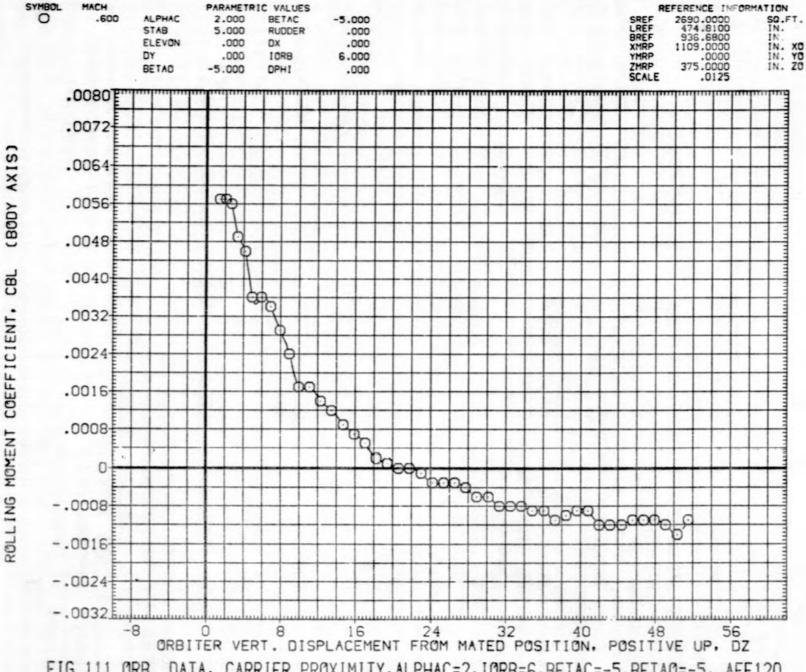
LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE120)



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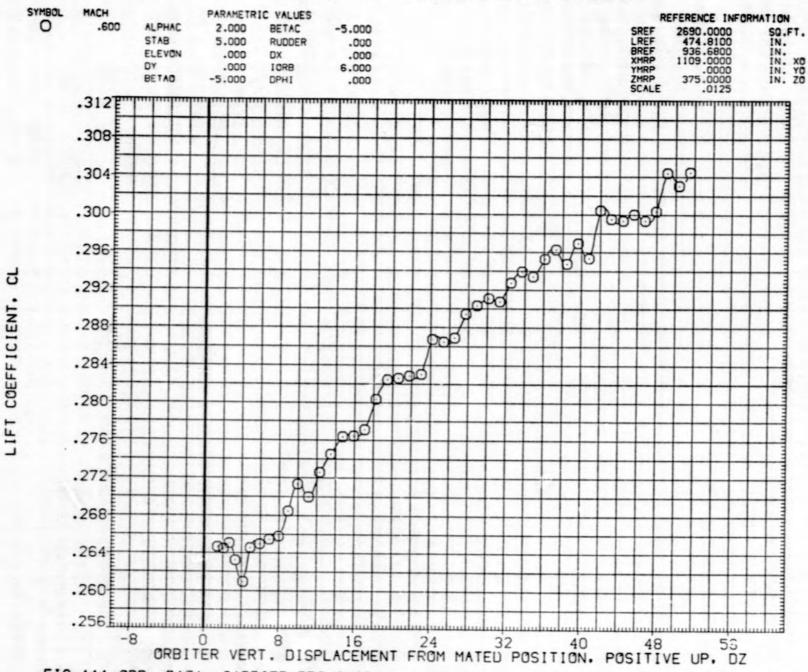
LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE120)







LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE120)



LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE120)

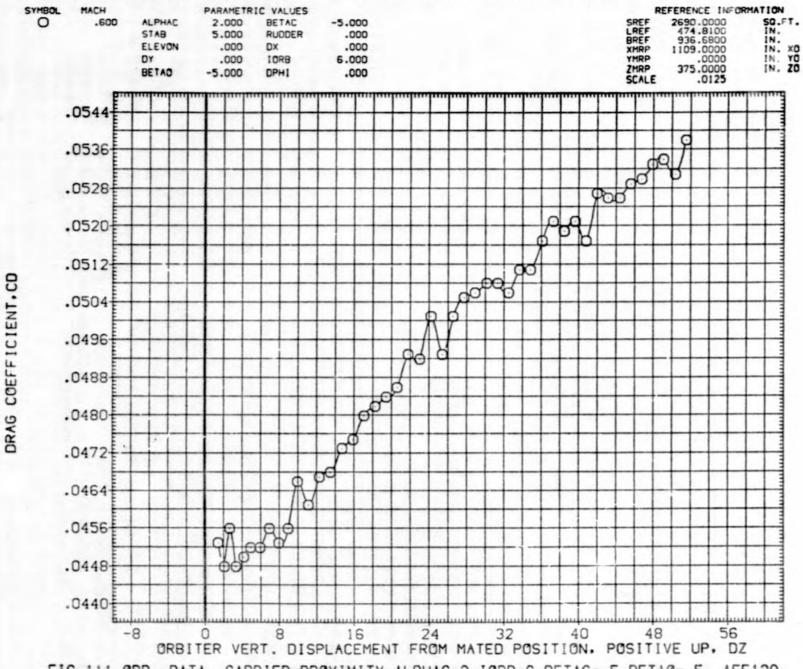
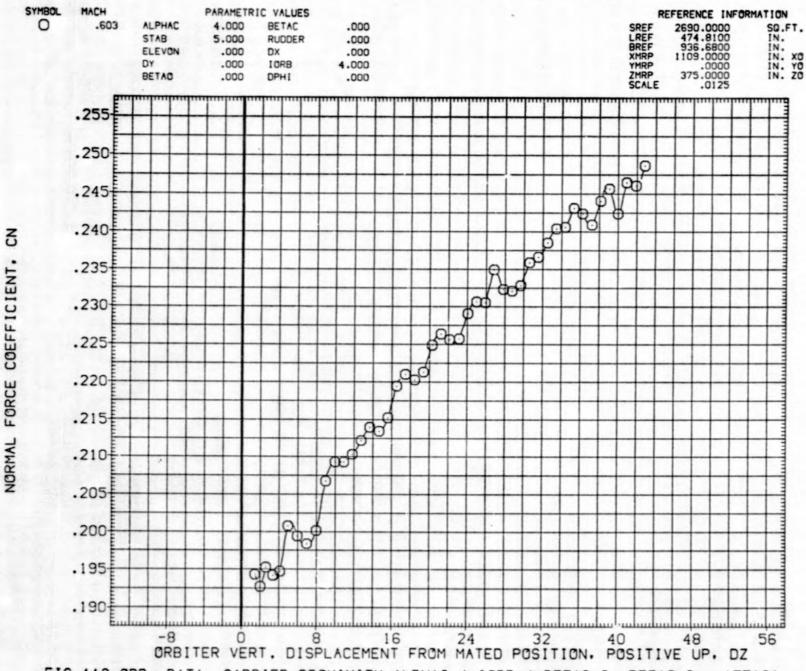


FIG.111 ORB. DATA, CARRIER PROXIMITY, ALPHAC=2, IORB=6, BETAC=-5, BETAC=-5, AFE120

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE121)



LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE121)

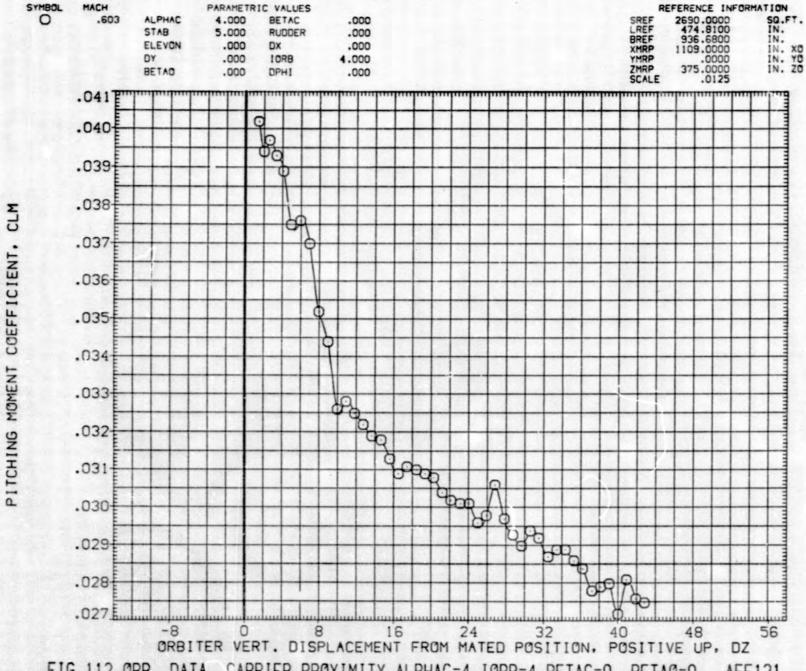
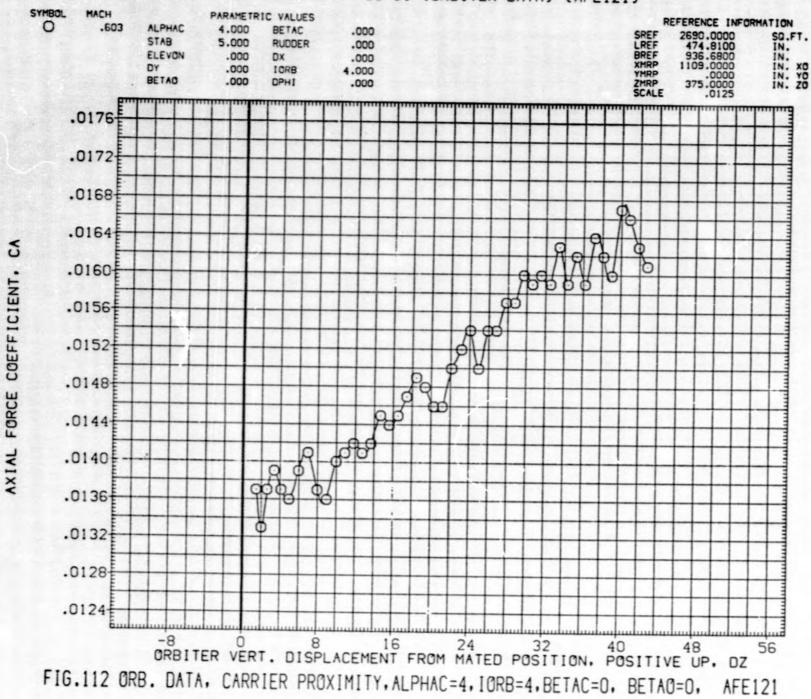


FIG.112 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=4, BETAC=0, BETAC=0, AFE121

LTV44-559(CA26) 747/1 ATY 06 SI (ORBITER DATA) (AFE121)



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LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE121)

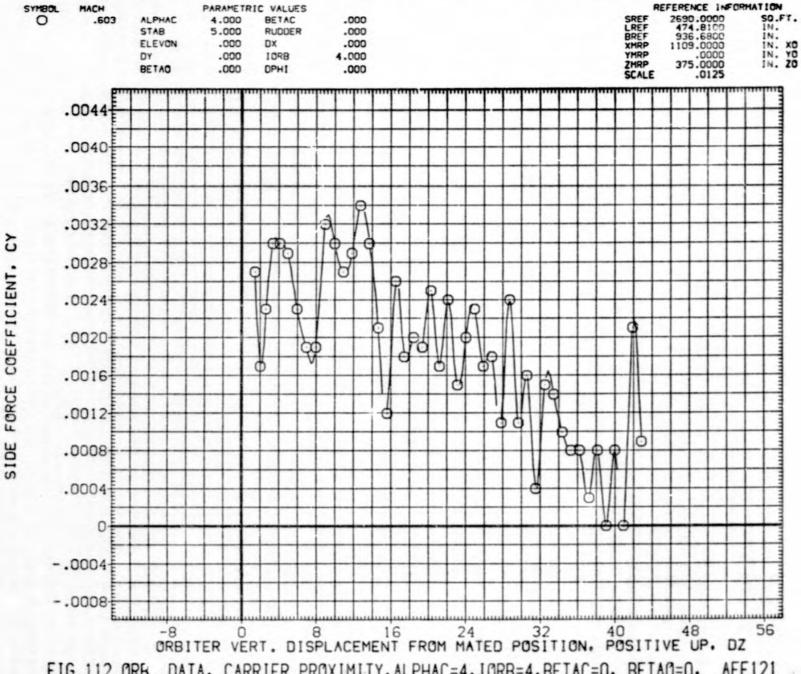
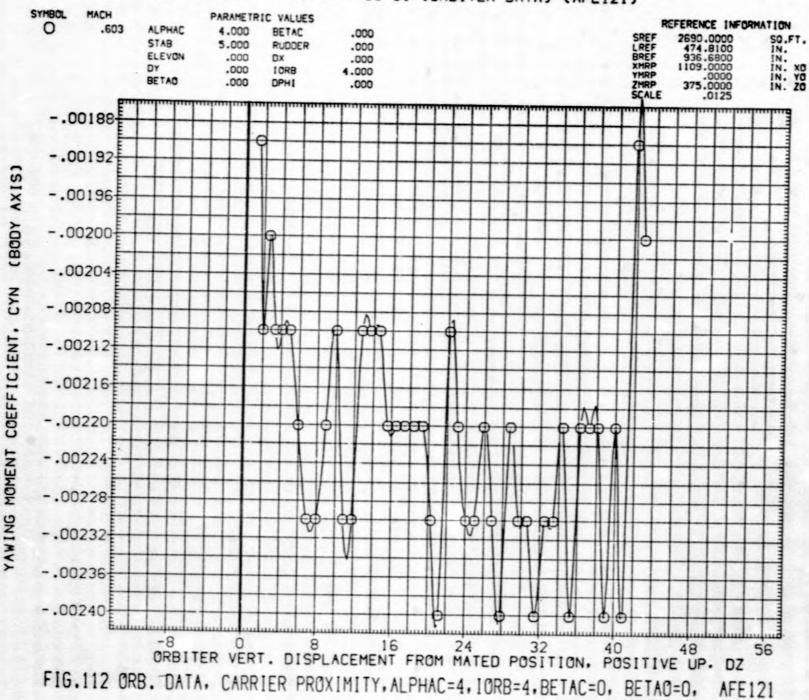


FIG.112 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=4, BETAC=0, BETAC=0, AFE121 868 PAGE

LTV44-559(CA26) 747/1 ATY 06 SI (ORBITER DATA) (AFE121)



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LTV44-559(CA26) 747/1 ATY 06 SI (ORBITER DATA) (AFE121)

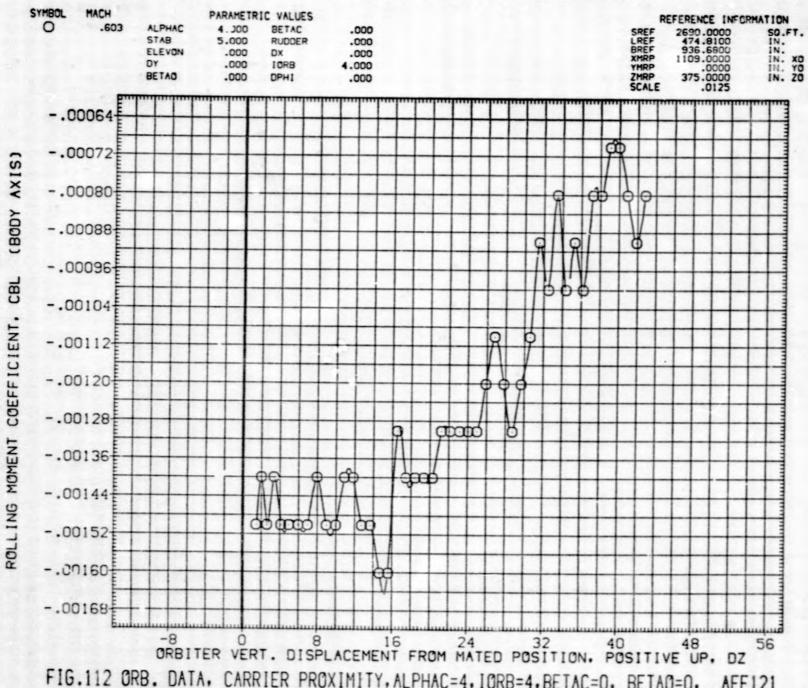
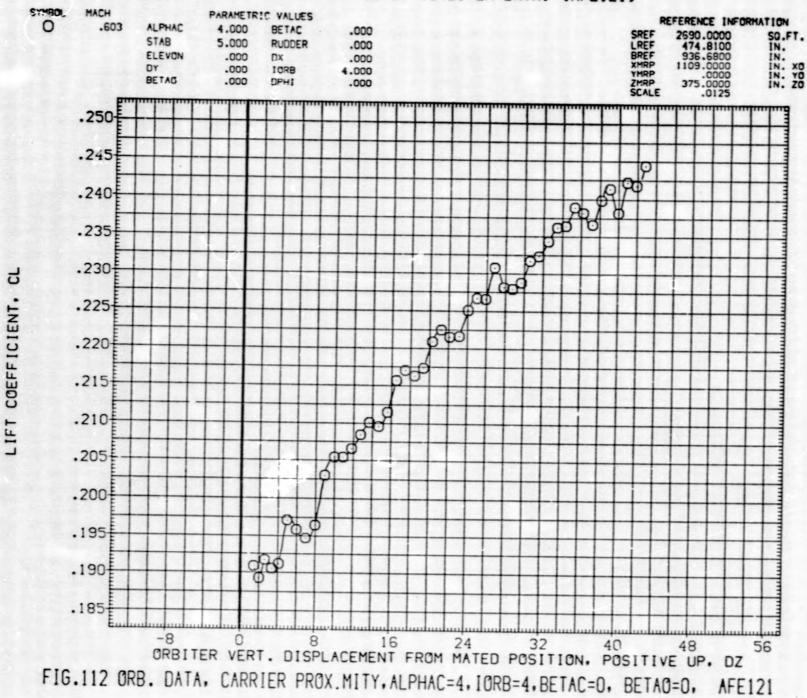


FIG.112 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=4, BETAC=0, BETAO=0, AFE121 PAGE 870

LTV44-559(CA26) 747/1 ATY 06 SI (ORBITER DATA) (AFE121)

0



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LTV44-559(CA26) 747/1 ATY 06 SI (ORBITER DATA) (AFE121)

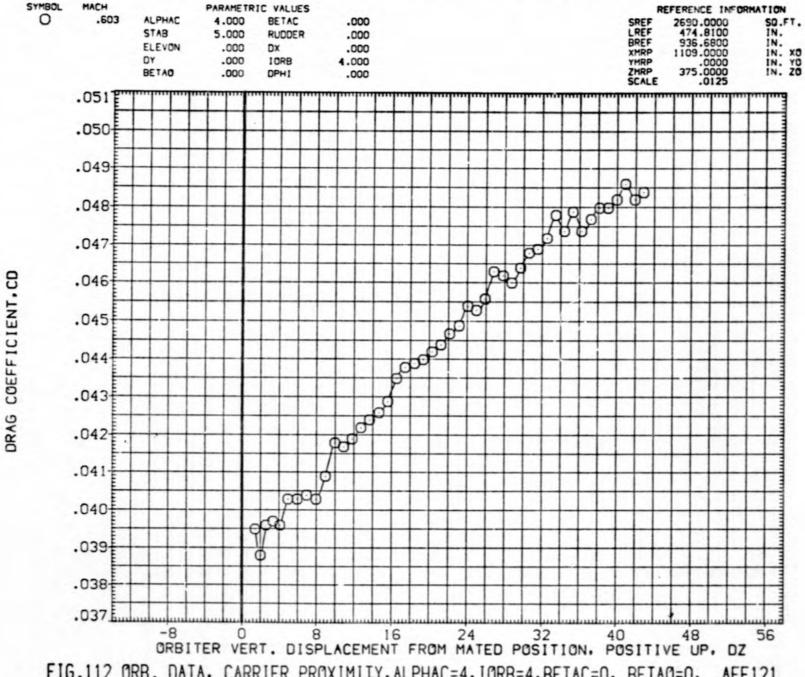
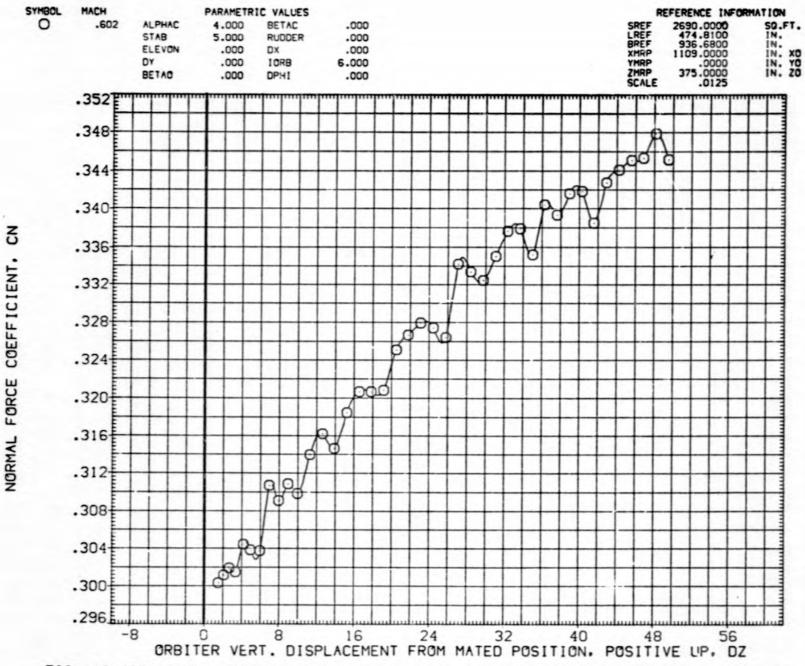


FIG.112 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=4, BETAC=0, BETAO=0, AFE121

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE122)

0



LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE122)

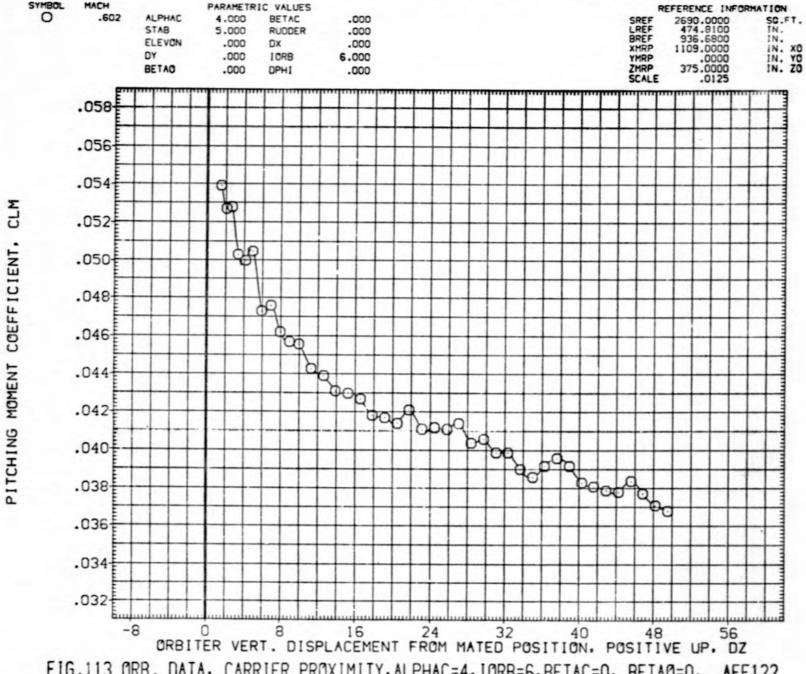
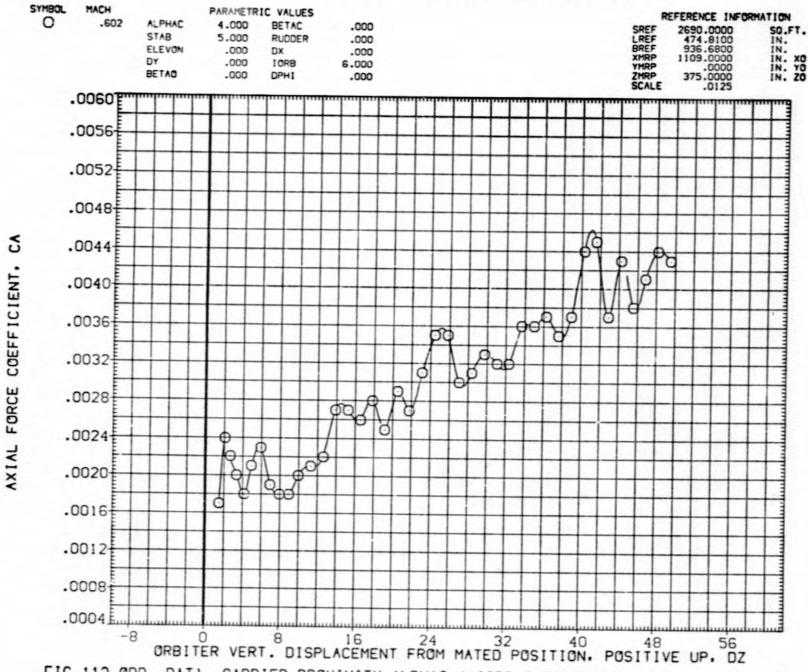


FIG.113 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=6, BETAC=0, BETAO=0, AFE122

L1V44-559(CA26) 747/1 ATY 06 SI (ORBITER DATA) (AFE122)



LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE122)

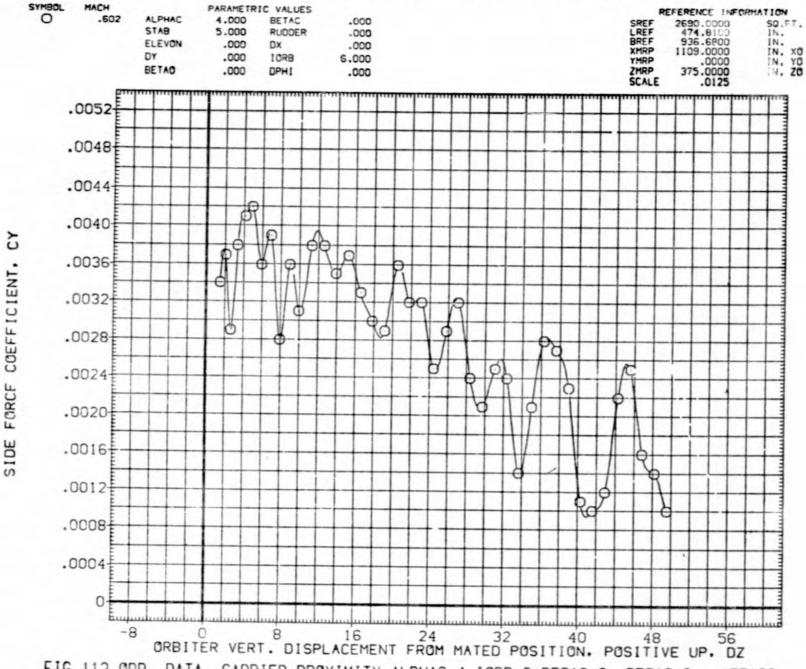
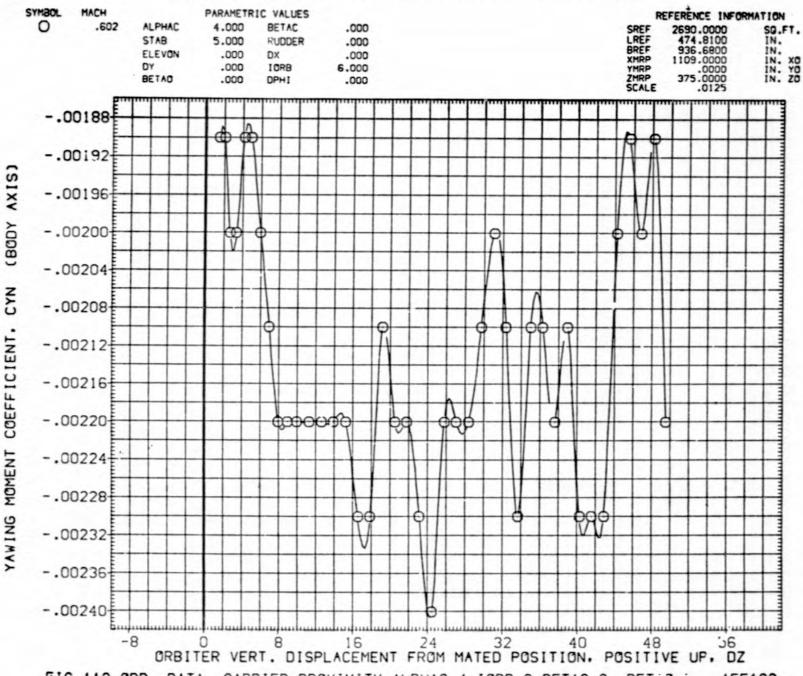
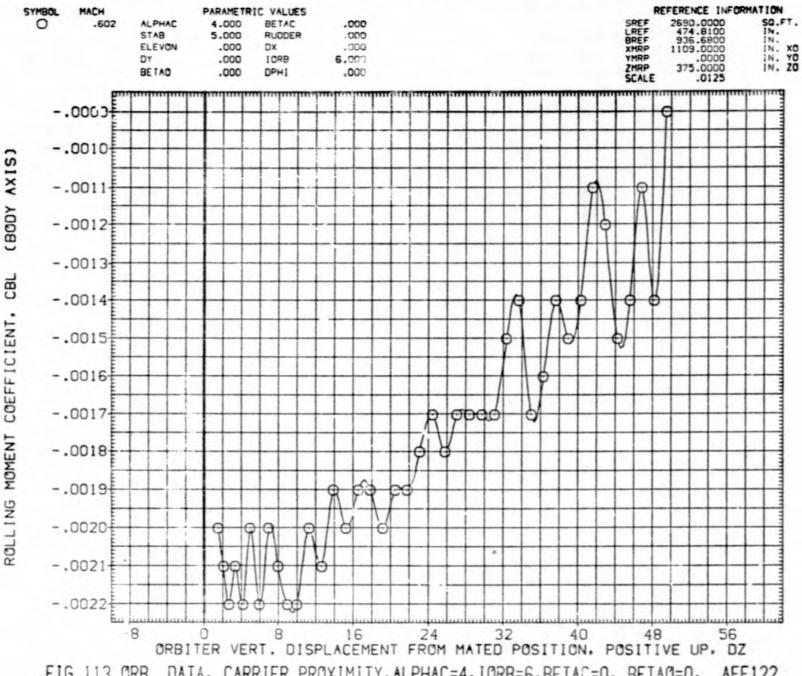


FIG. 113 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=6, BETAC=0, BETAO=0, AFE122

LTV44-559(CA26) 747/1 ATY 06 S! (ORBITER DATA) (AFE122)

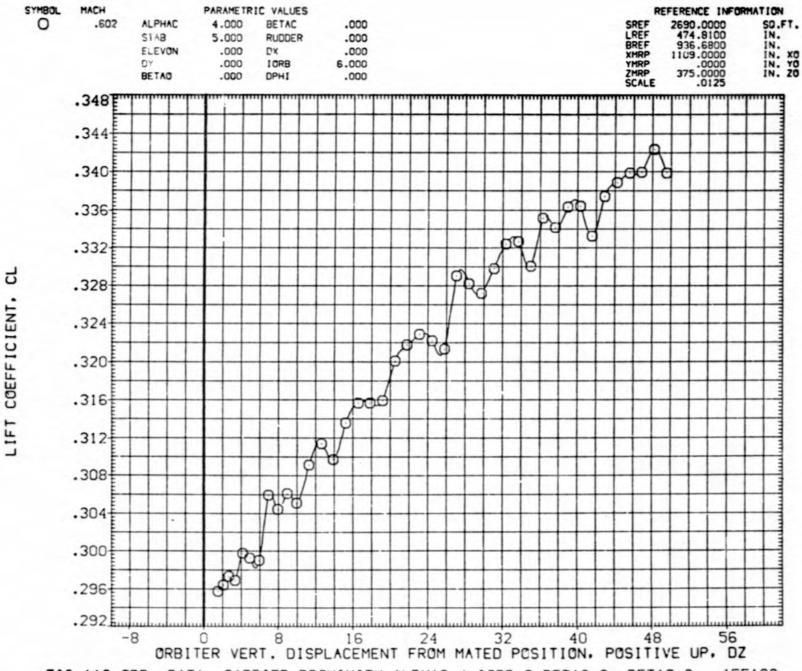


LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE122)





LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE122)



LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE122)

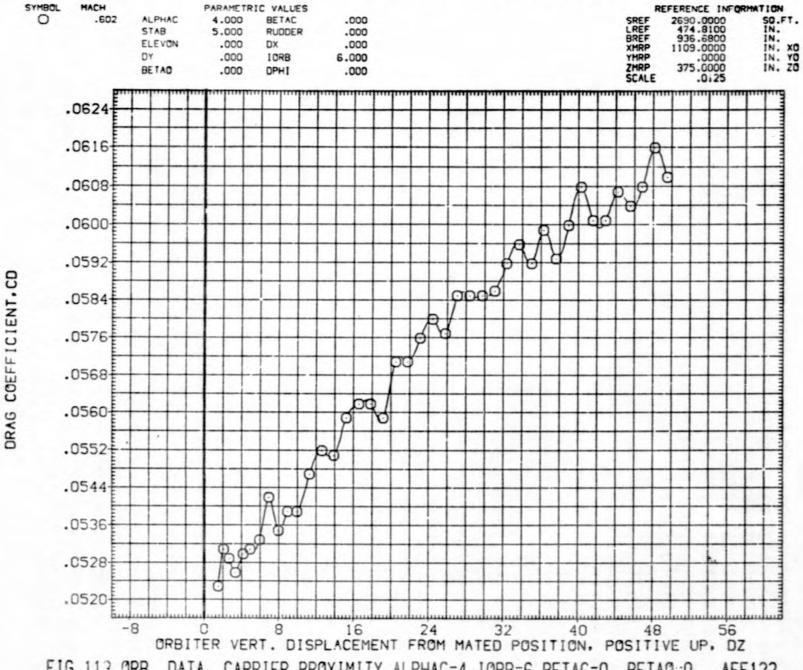
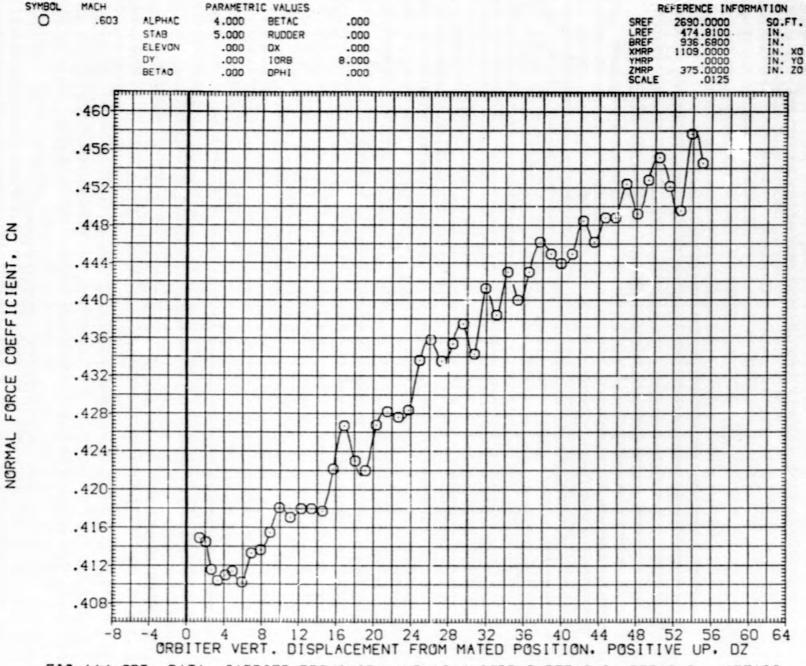


FIG.113 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=6, BETAC=0, BETAO=0, AFE122

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LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE123)



LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE123)

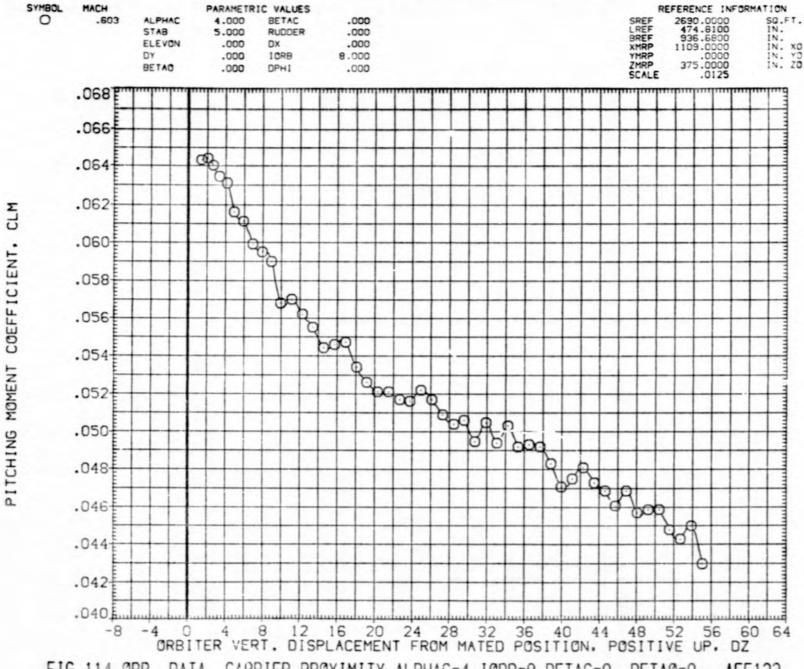
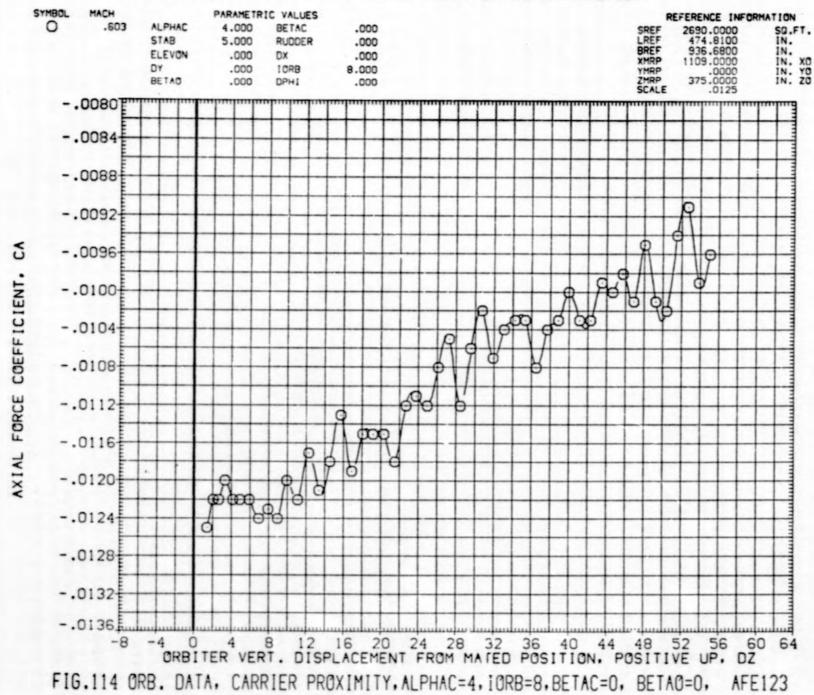


FIG.114 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=8, BETAC=0, BETAO=0, AFE123

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE123)



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LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE123)

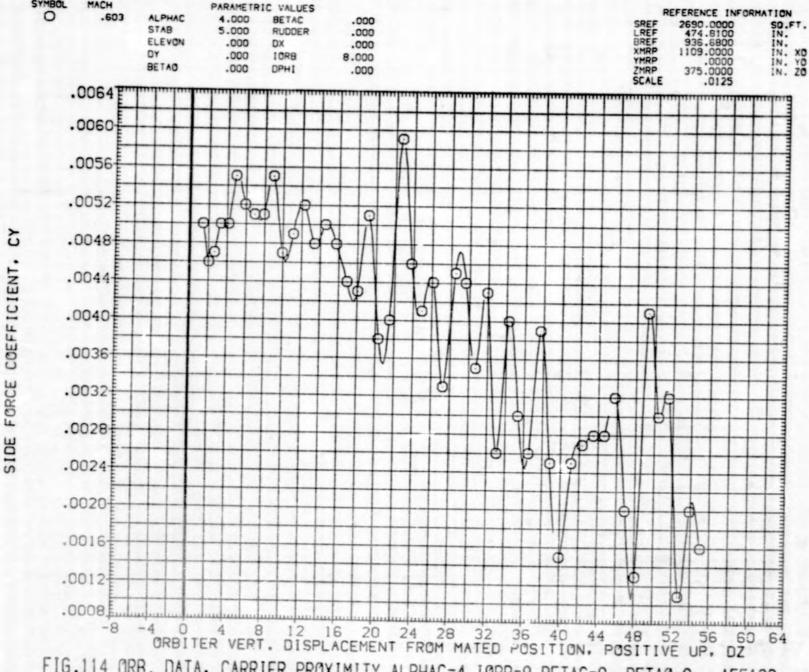
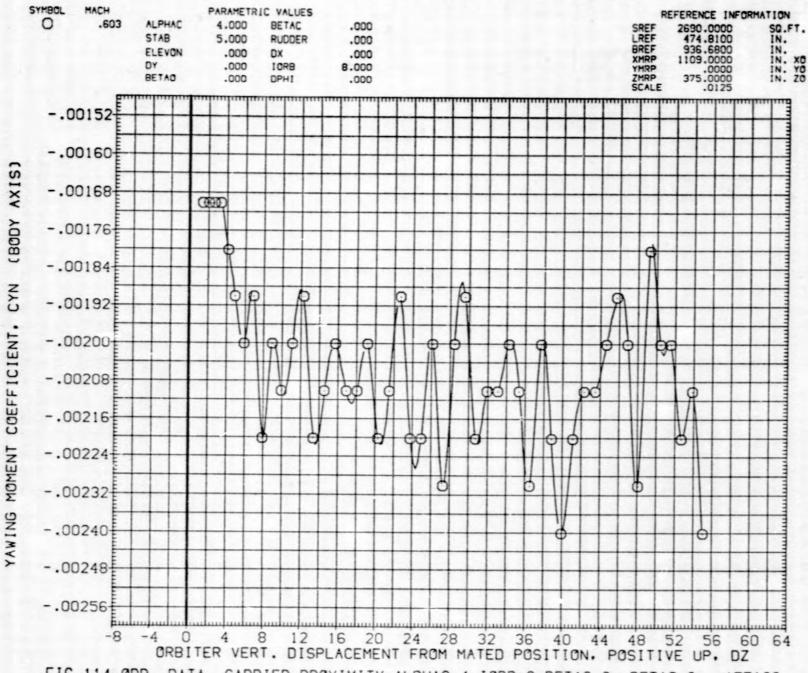


FIG.114 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=8, BETAC=0, BETAO=0, AFE123

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A.

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE123)



LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE123)

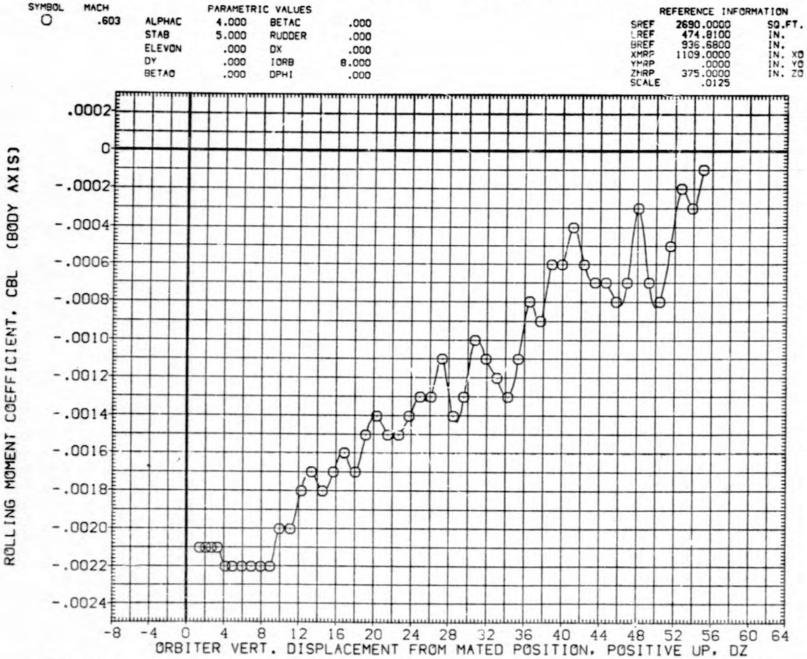
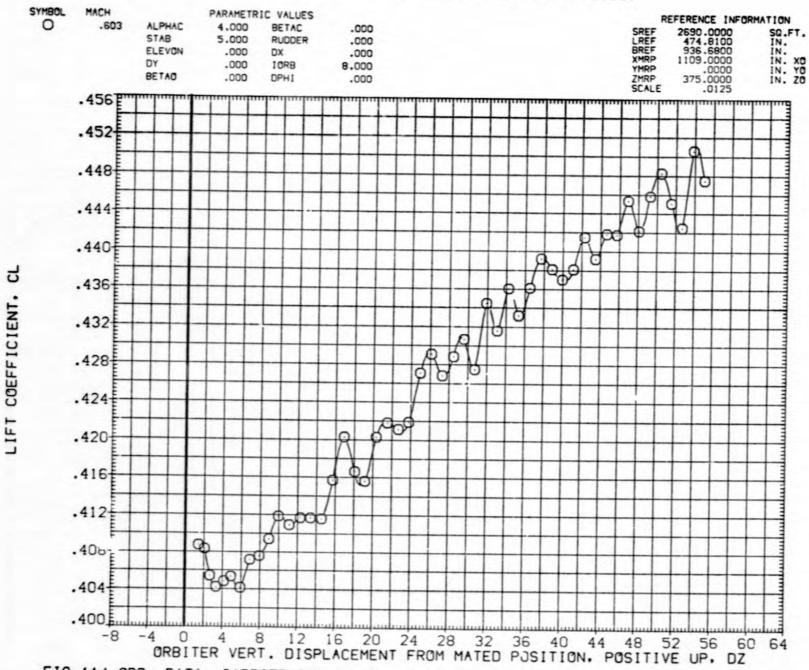


FIG.114 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=8, BETAC=0, BETAO=0, AFE123

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE123)



LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE123)

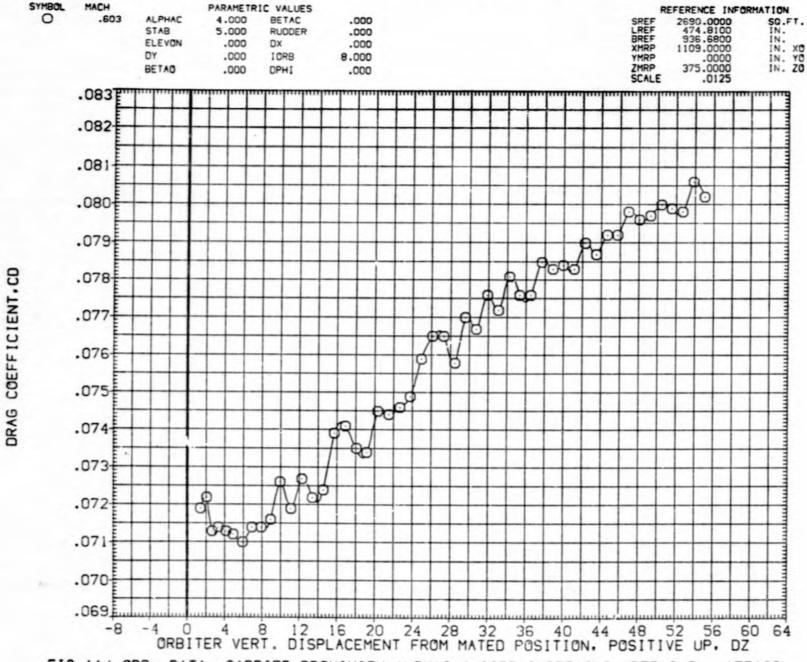
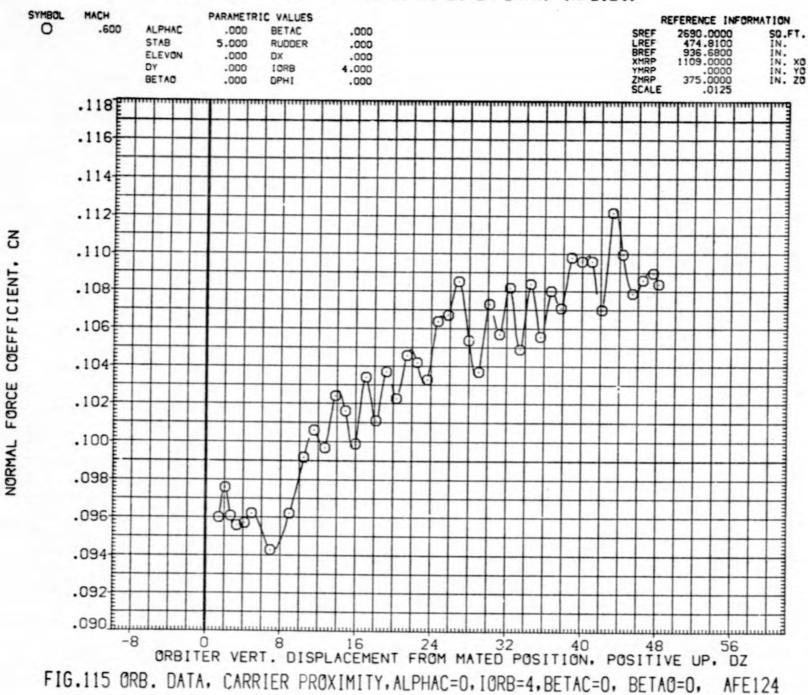


FIG.114 ORB. DATA, CARRIER PROXIMITY, ALPHAC=4, IORB=8, BETAC=0, BETAO=0, AFE123

LTV44-559(CA26) 747/1 ATY 06 SI (ORBITER DATA) (AFE124)



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LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE124)

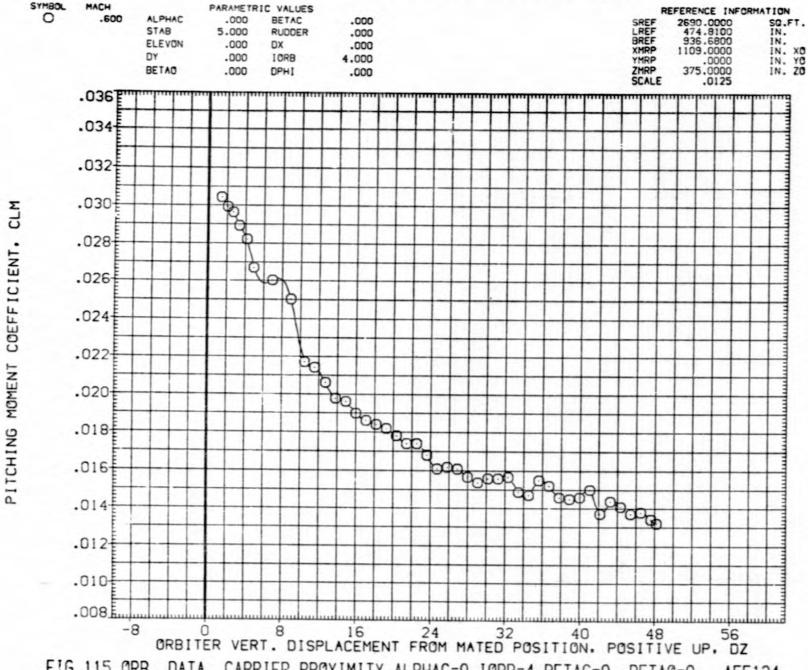
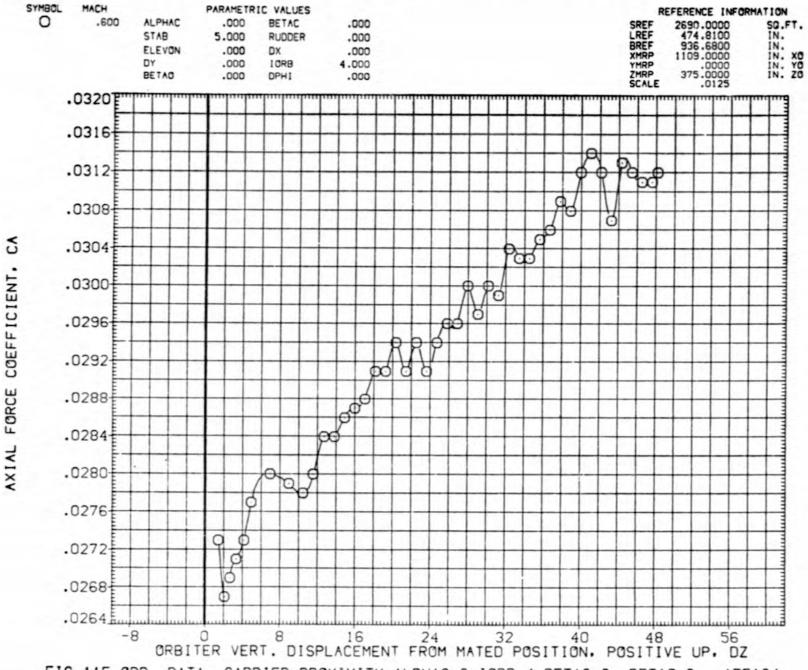
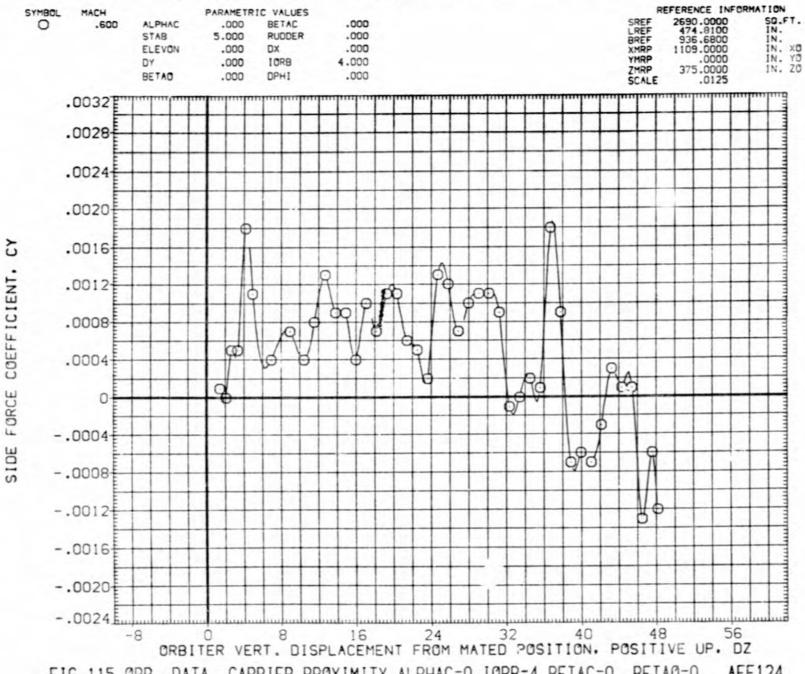


FIG.115 ORB. DATA, CARRIER PROXIMITY, ALPHAC=0, IORB=4, BETAC=0, BETAO=0, AFE124

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE124)

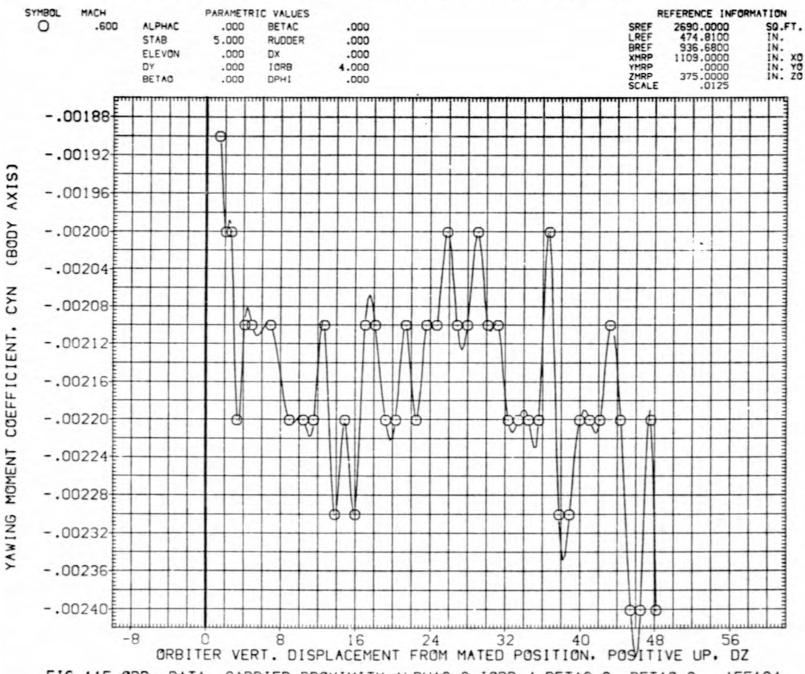


LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE124)

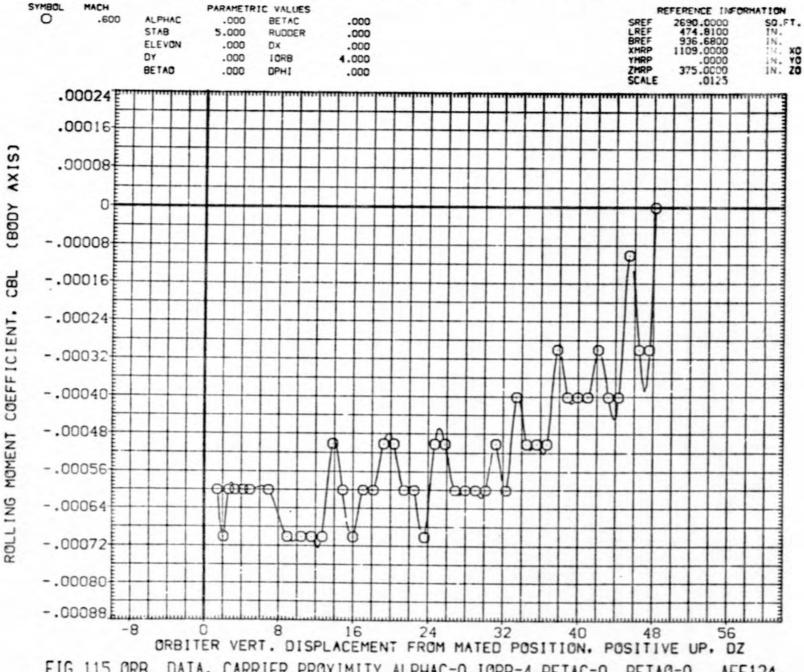




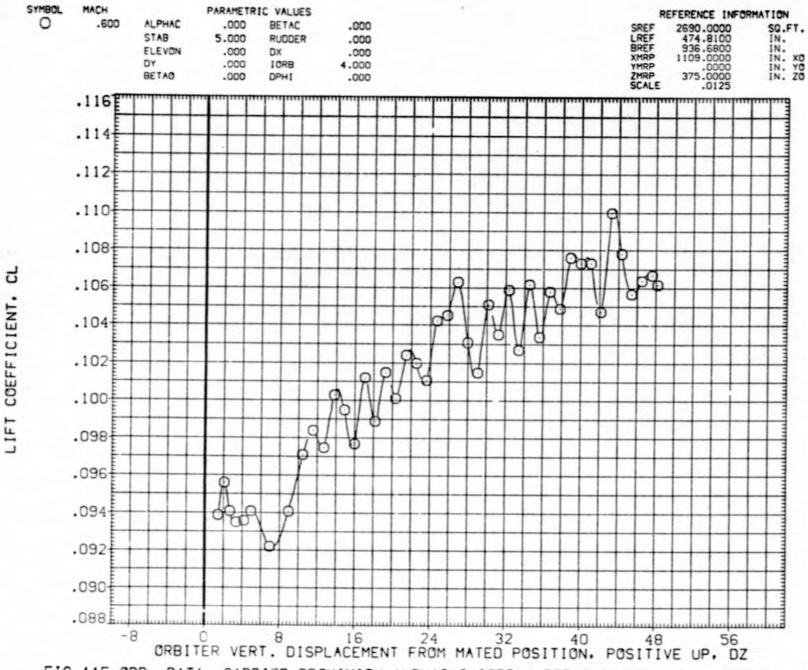
LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE124)



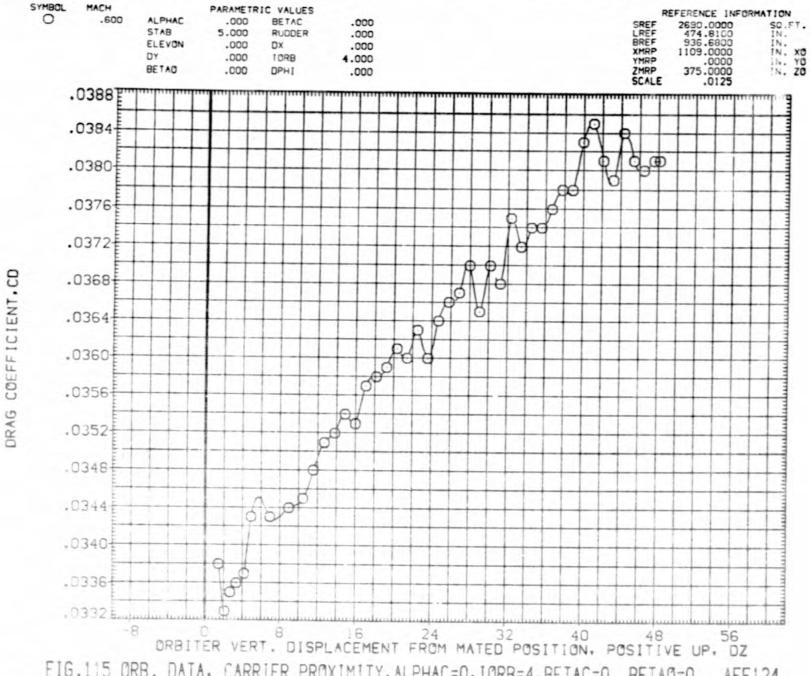
LTV44-559(CA26) 747/1 ATY 06 SI (ORBITER DATA) (AFE124)



LTV44-559(CA26) 747/1 ATY 06 SI (ORBITER DATA) (AFE124)

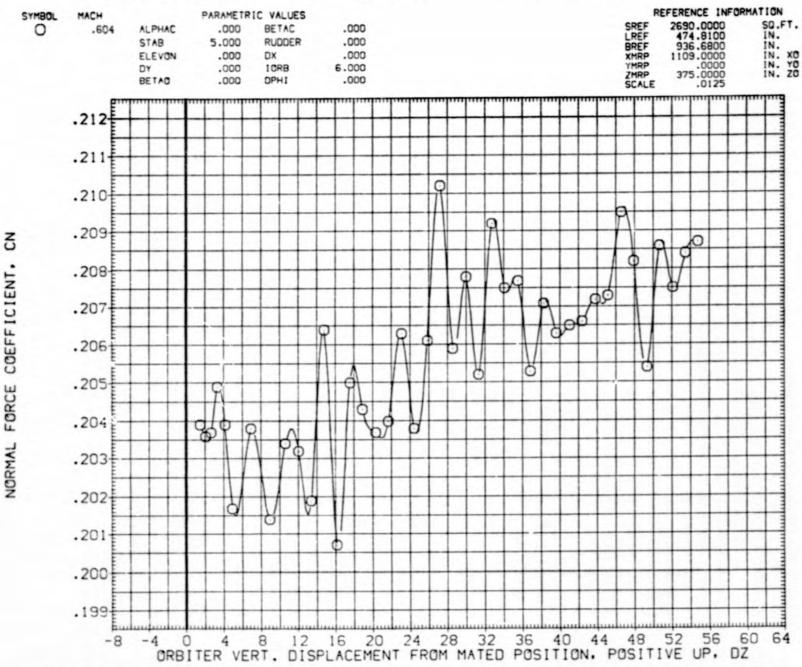


LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE124)



LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE125)

0



LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE125)

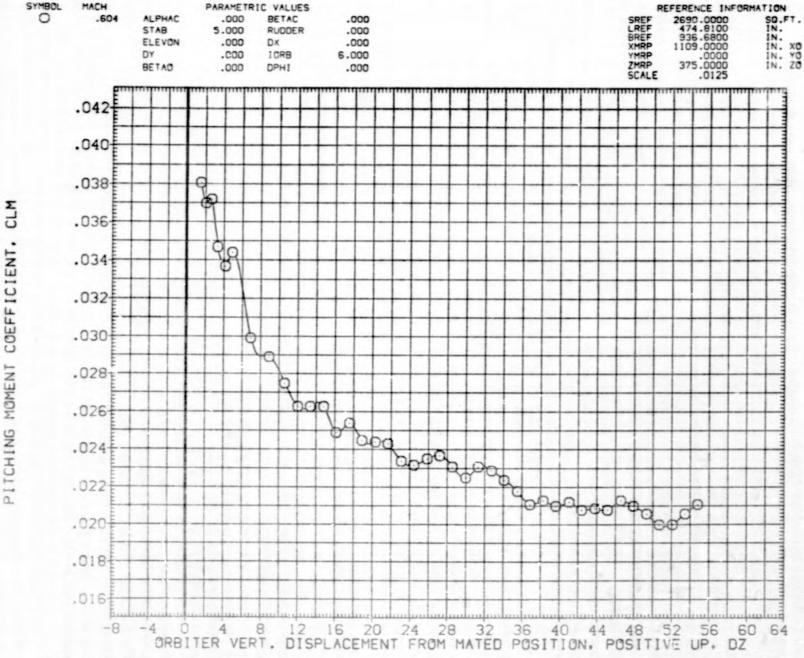


FIG.116 ORB. DATA, CARRIER PROXIMITY, ALPHAC=0, IORE=6, BETAC=0, BETAO=0, AFE125

LTV44-559(CA26) 747/1 ATY 06 SI (ORBITER DATA) (AFE125)

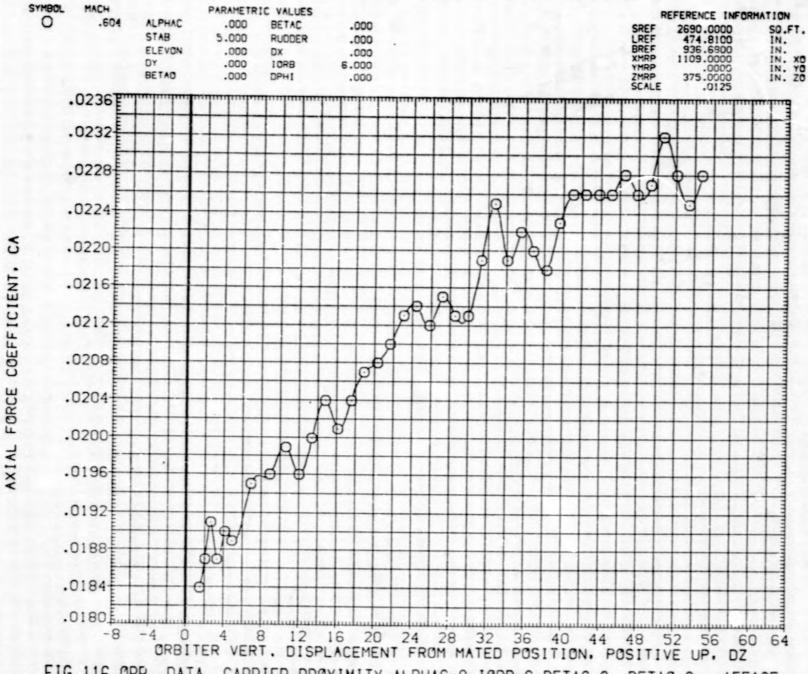


FIG.116 ORB. DATA, CARRIER PROXIMITY, ALPHAC=0, IORB=6, BETAC=0, BETAO=0, AFE125

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE125)

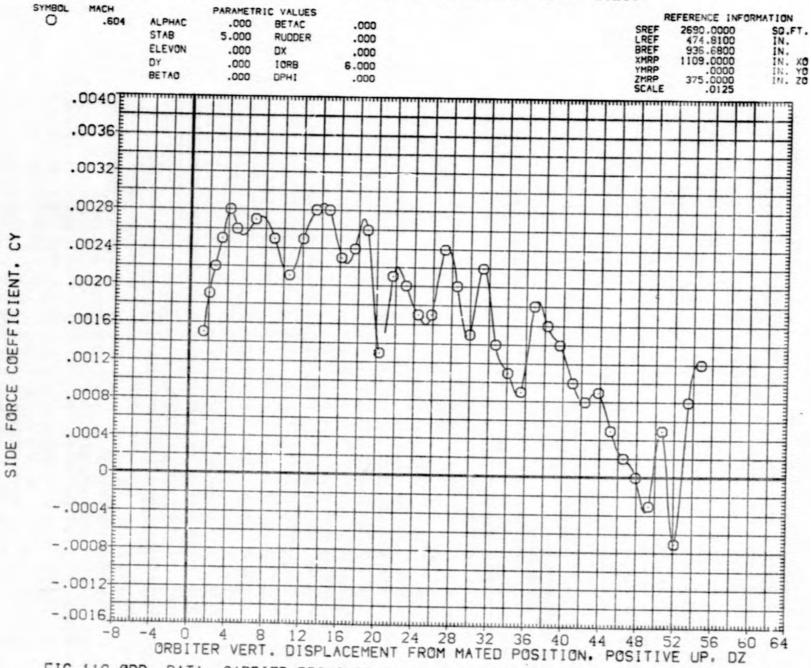
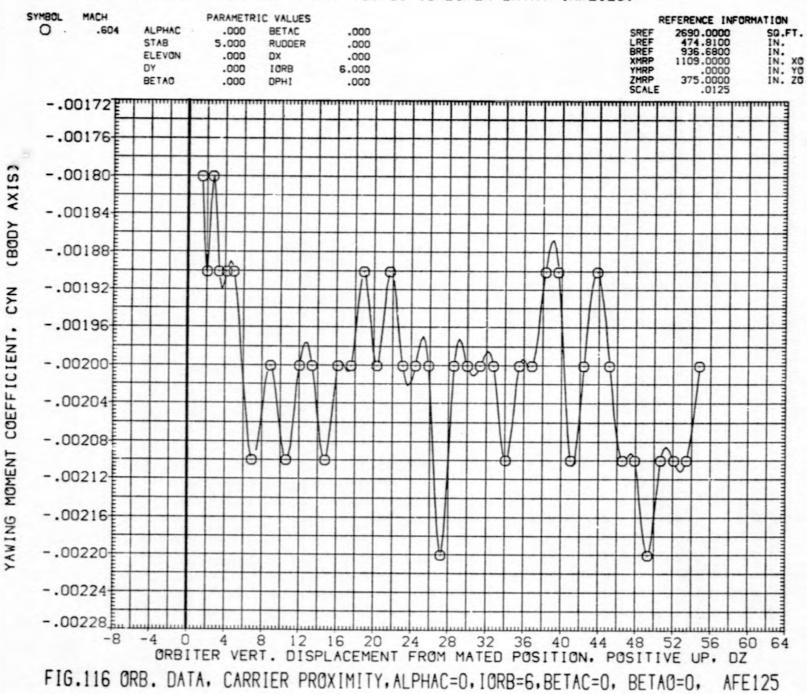


FIG. 116 ORB. DATA, CARRIER PROXIMITY, ALPHAC=0, IORB=6, BETAC=0, BETAO=0, AFE125

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE125)



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LTV44-559(CA26) 747/1 ATY 06 SI (ORBITER DATA) (AFE125)

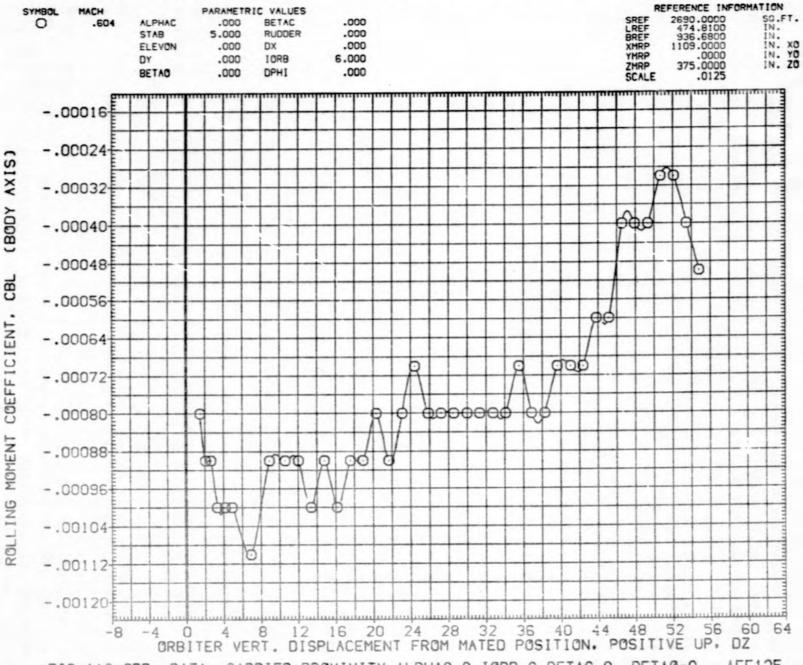


FIG.116 ORB. DATA, CARRIER PROXIMITY, ALPHAC=0, IORB=6, BETAC=0, BETAO=0, AFE125

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE125)

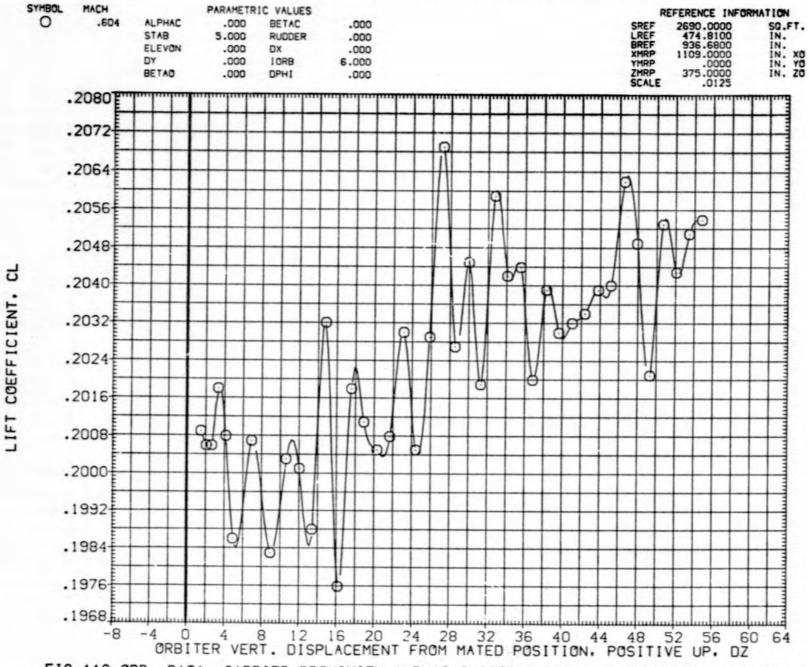


FIG.116 ORB. DATA, CARRIER PROXIMITY, ALPHAC=0, IORB=6, BETAC=0, BETAO=0, AFE125

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE125)

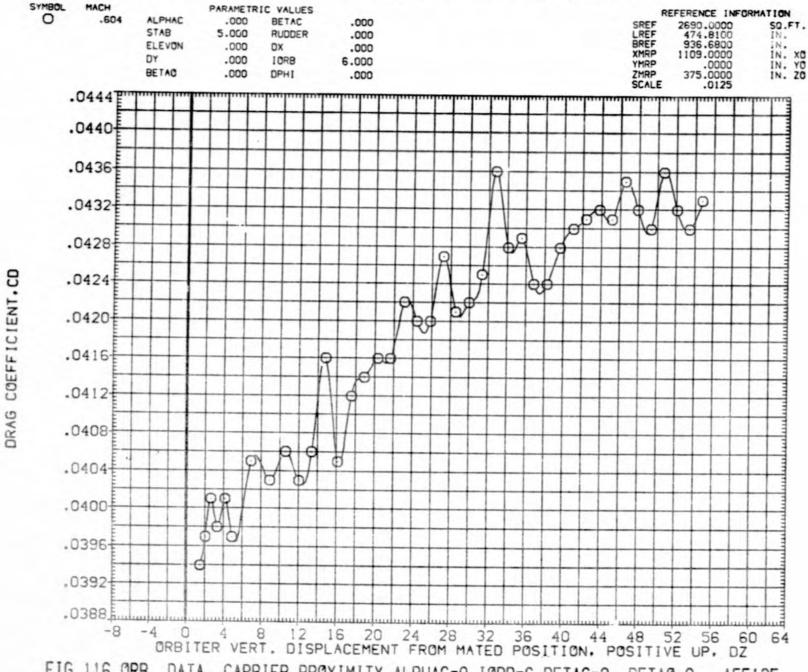


FIG.116 ORB. DATA, CARRIER PROXIMITY, ALPHAC=0, IORB=6, BETAC=0, BETAO=0, AFE125

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE126)

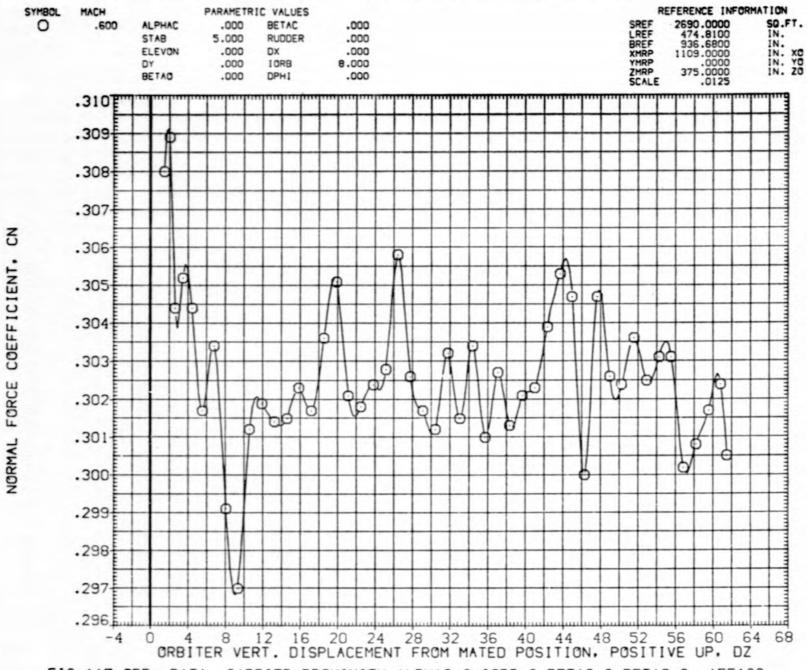


FIG.117 ORB. DATA, CARRIER PROXIMITY, ALPHAC=0, IORB=8, BETAC=0, BETAO=0, AFE126

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE126)

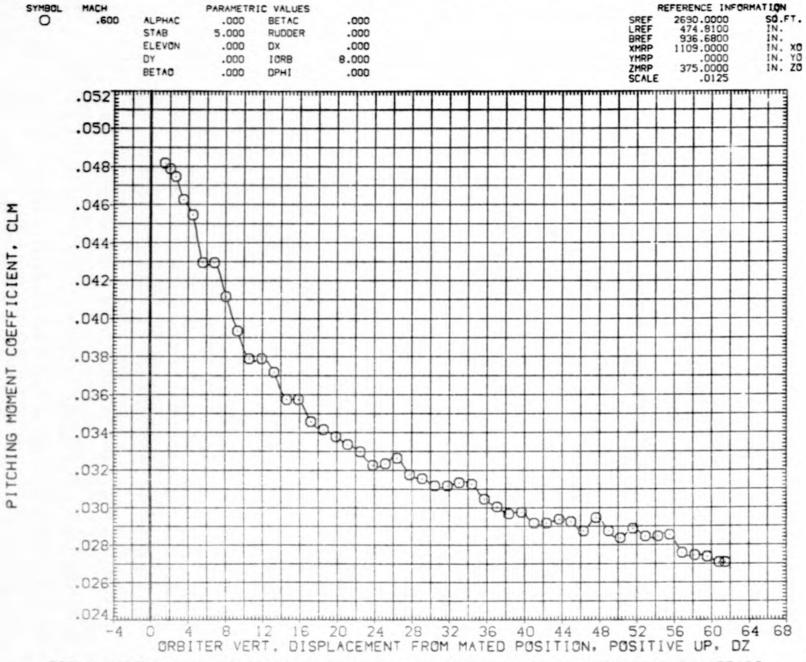


FIG.117 ORB. DATA, CARRIER PROXIMITY, ALPHAC=0, IORB=8, BETAC=0, BETAO=0, AFE126

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE126)

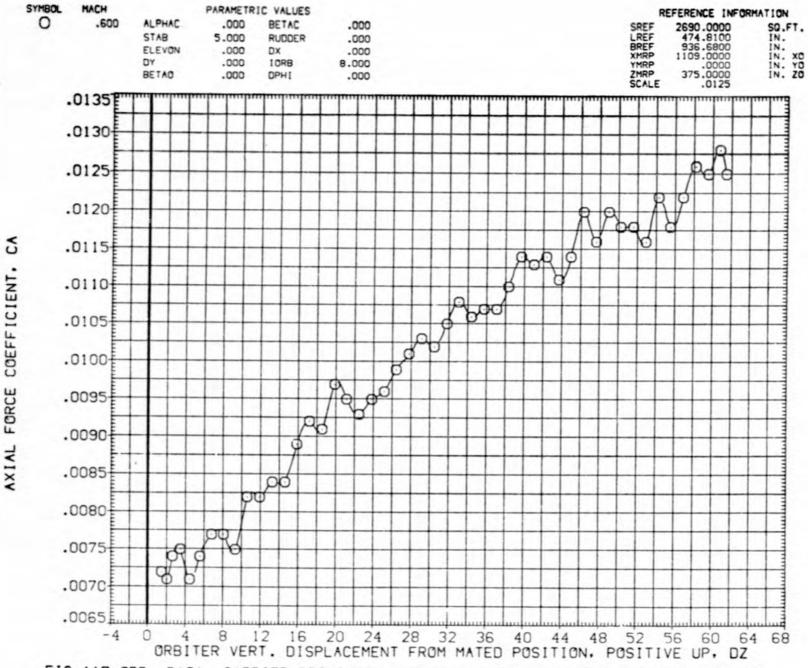


FIG.117 ORB. DATA, CARRIER PROXIMITY, ALPHAC=0, IORB=8, BETAC=0, BETAO=0, AFE126

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE126)

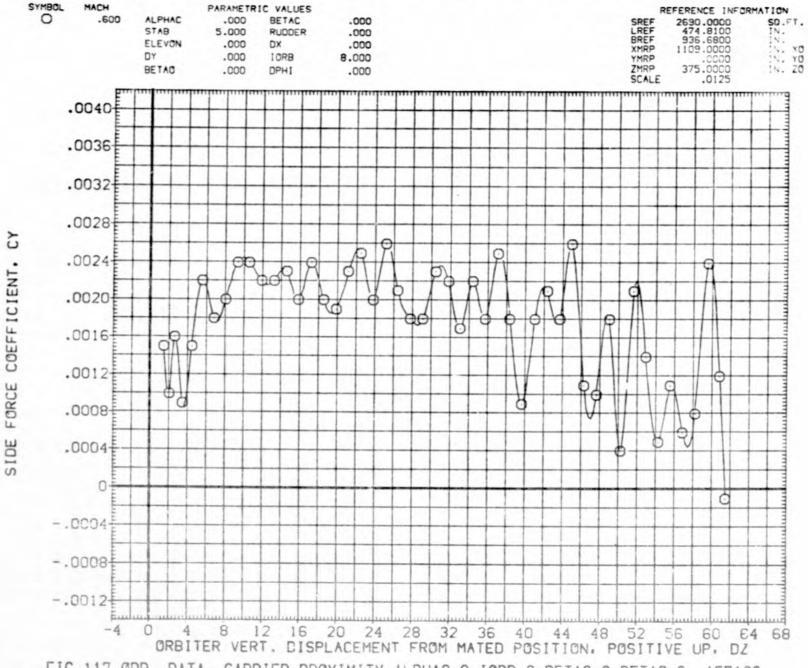


FIG.117 ORB. DATA, CARRIER PROXIMITY, ALPHAC=0, IORB=8, BETAC=0, BETAO=0, AFE126

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE126)

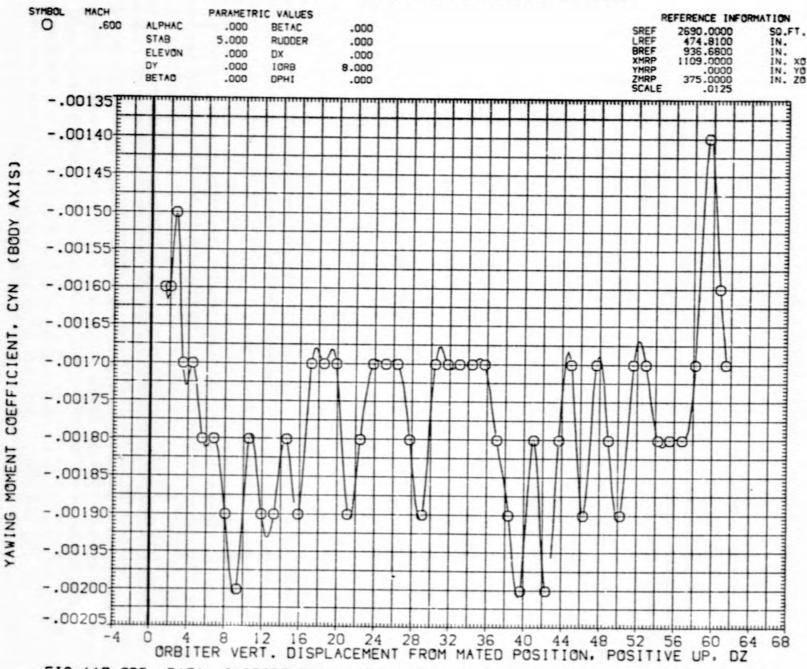


FIG.117 ORB. DATA, CARRIER PROXIMITY, ALPHAC=0, IORB=8, BETAC=0, BETAO=0, AFE126

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE126)

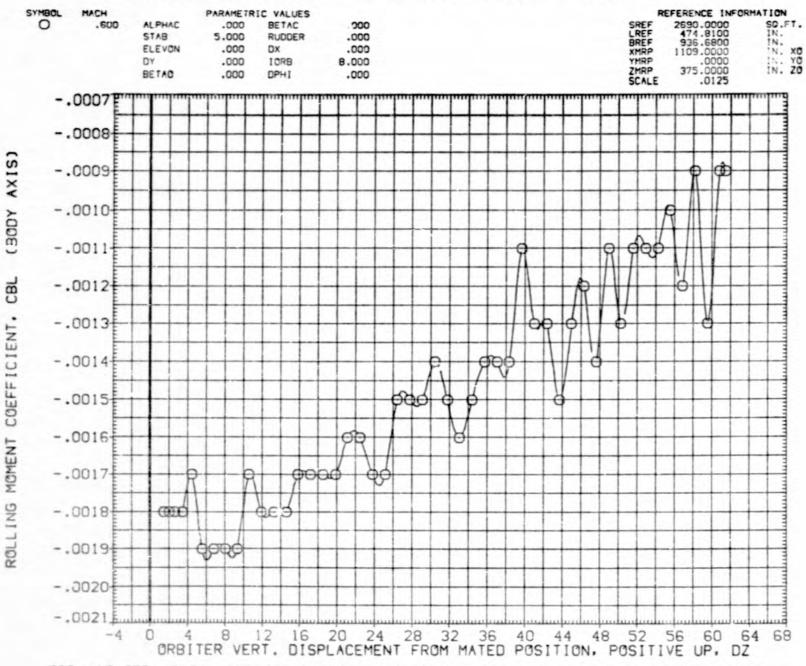


FIG.117 ORB. DATA, CARRIER PROXIMITY, ALPHAC=0, IORB=8, BETAC=0, BETAO=0, AFE126

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LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE126)

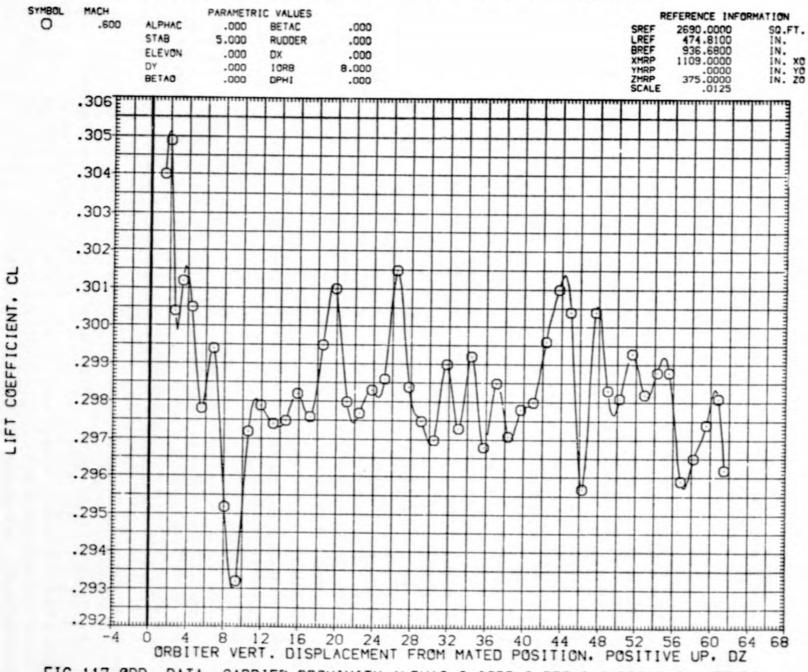


FIG.117 ORB. DATA, CARRIER PROXIMITY, ALPHAC=0, IORB=8, BETAC=0, BETAO=0, AFE126

LTV44-559(CA26) 747/1 ATY 06 SI (ORBITER DATA) (AFE126)

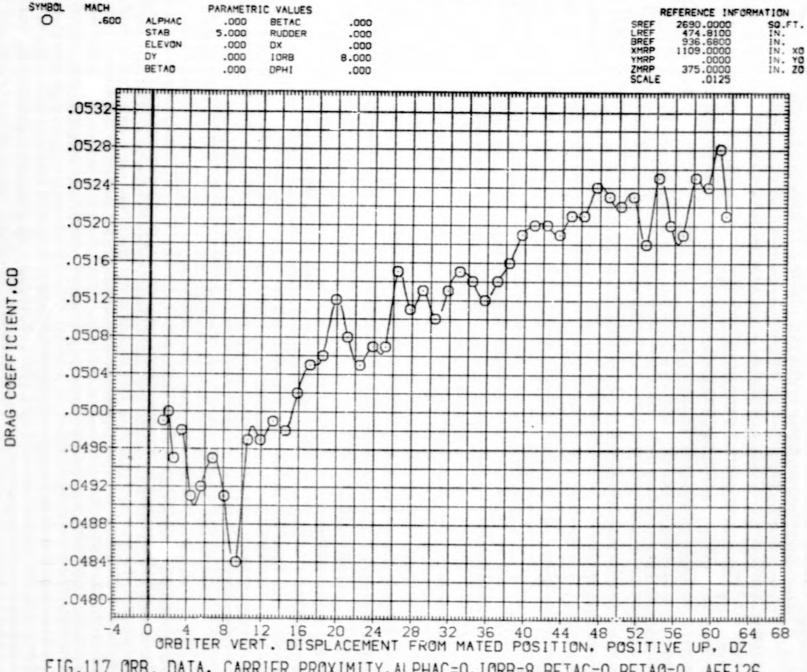


FIG.117 ORB. DATA, CARRIER PROXIMITY, ALPHAC=0, IORB=8, BETAC=0, BETAO=0, AFE126

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE127)

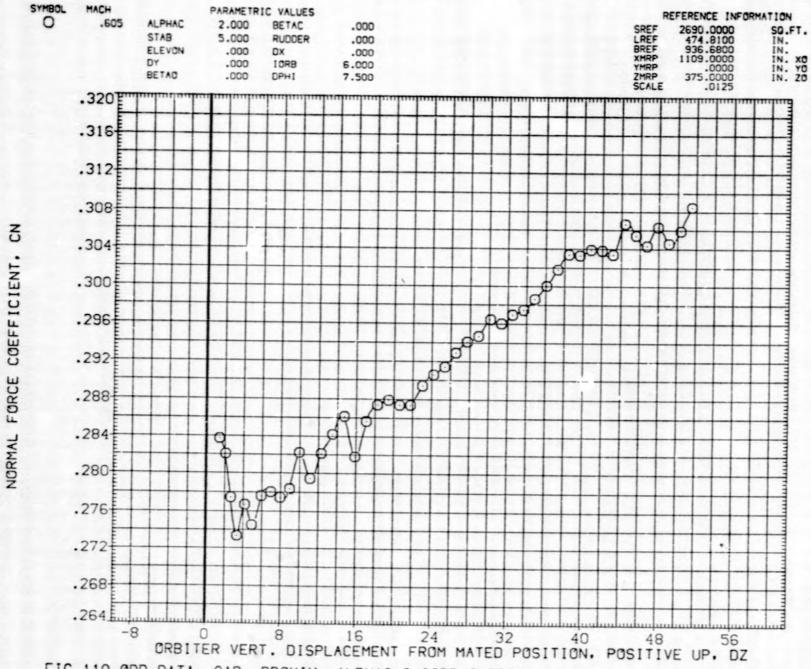


FIG.118 ORB DATA, CAR. PROXIM., ALPHAC=2, IORB=6, BETAC=0, BETAO=0, DELPHI=7.5, AFE127

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE127)

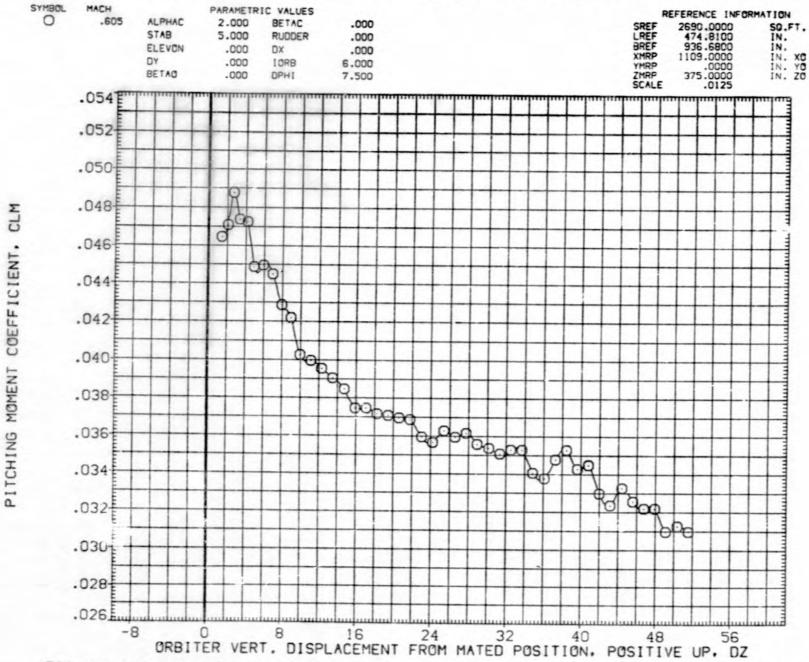


FIG.118 ORB DATA, CAR. PROXIM., ALPHAC=2, IORB=6, BETAC=0, BETAO=0, DELPHI=7.5, AFE127

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE127)

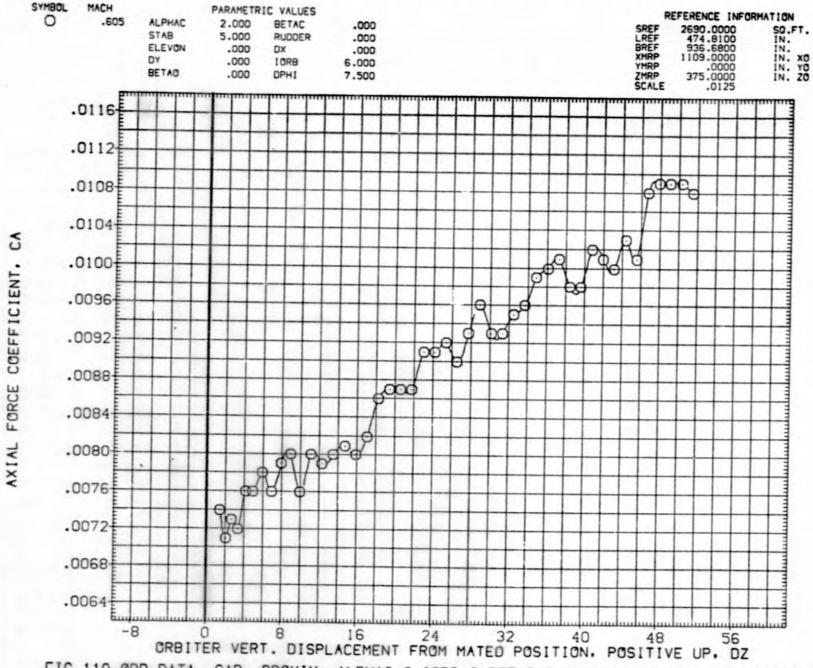


FIG.118 ORB DATA, CAR. PROXIM., ALPHAC=2, IORB=6, BETAC=0, BETAO=0, DELPHI=7.5, AFE127

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE127)

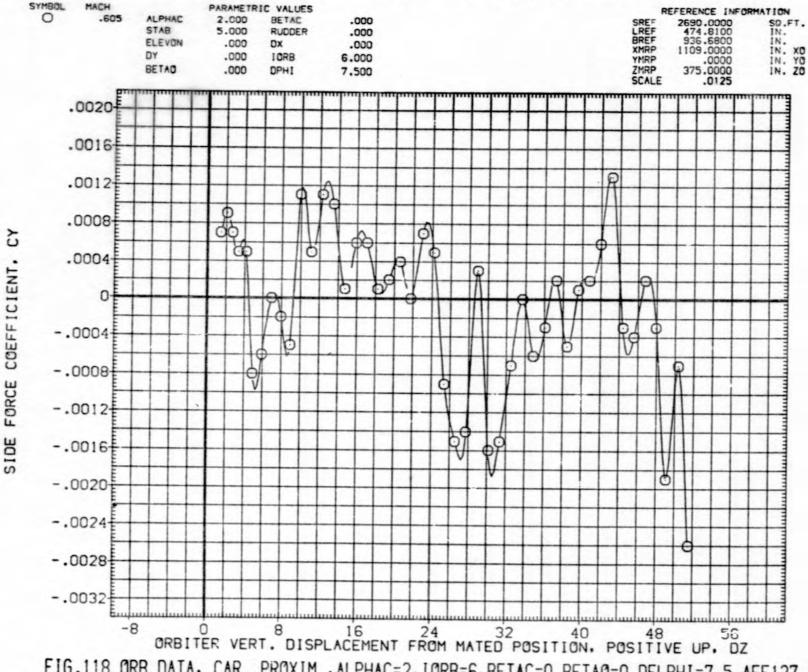
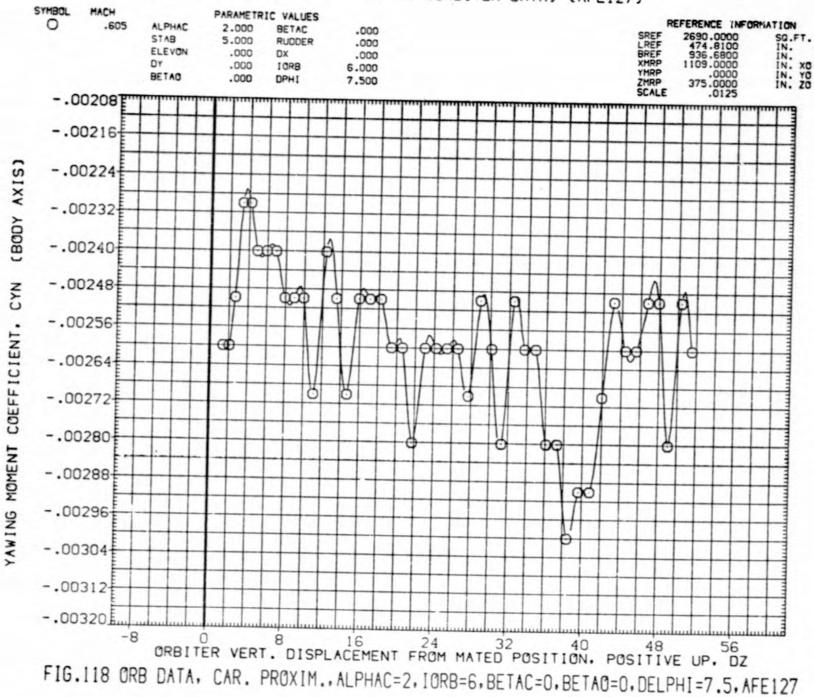


FIG.118 ORB DATA, CAR. PROXIM., ALPHAC=2, IORB=6, BETAC=0, BETAO=0, DELPHI=7.5, AFE127
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0

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LTV44-559(CA26) 747/1 ATY 06 SI (ORBITER DATA) (AFE127)



LTV44-559(CA26) 747/1 ATY 06 SI (ORBITER DATA) (AFE127)

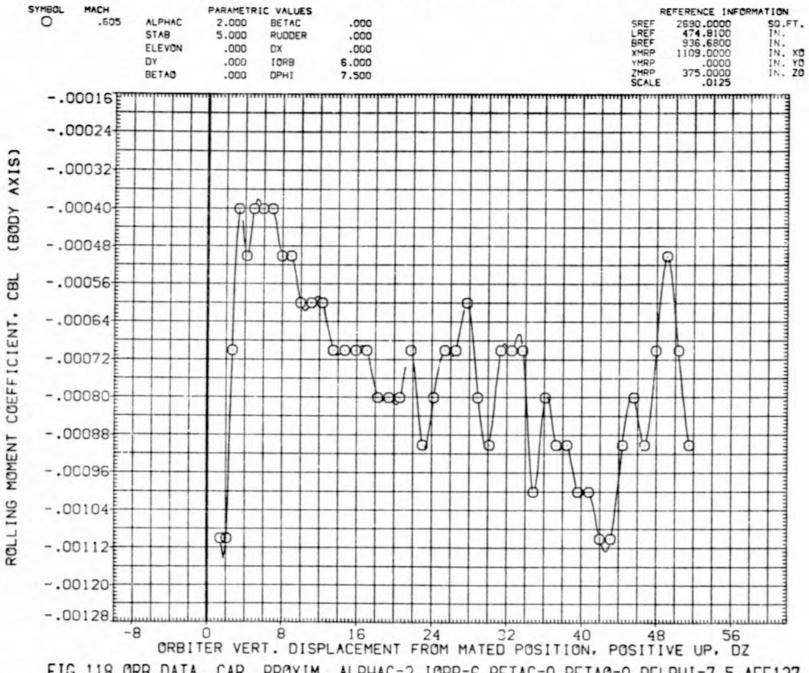


FIG.118 ORB DATA, CAR. PROXIM., ALPHAC=2, IORB=6, BETAC=0, BETAO=0, DELPHI=7.5, AFE127

LTV44-559(CA26) 747/1 ATY 06 S1 (ORBITER DATA) (AFE127)

0

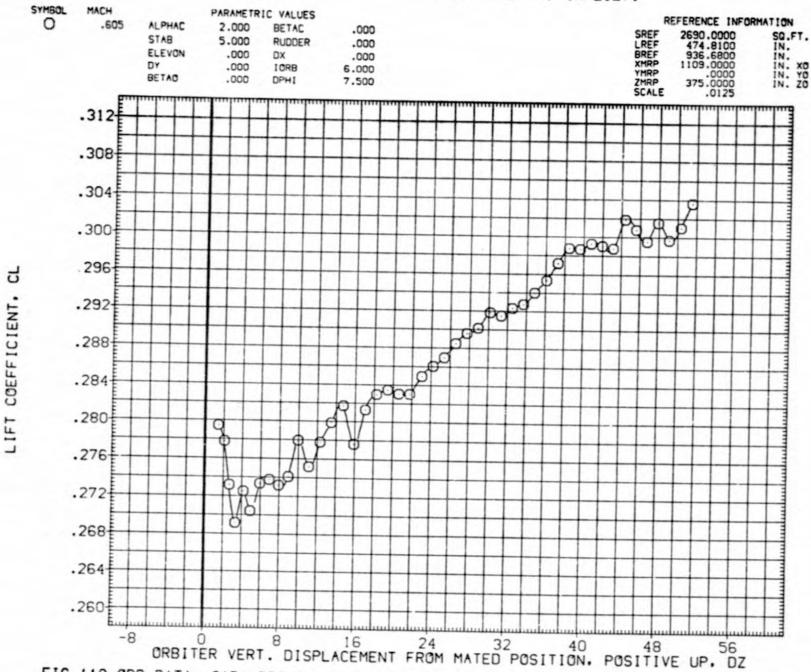


FIG.118 ORB DATA, CAR. PROXIM., ALPHAC=2, IORB=6, BETAC=0, BETAO=0, DELPHI=7.5, AFE127

LTV44-559(CA26) 747/1 ATY 06 SI (ORBITER DATA) (AFE127)

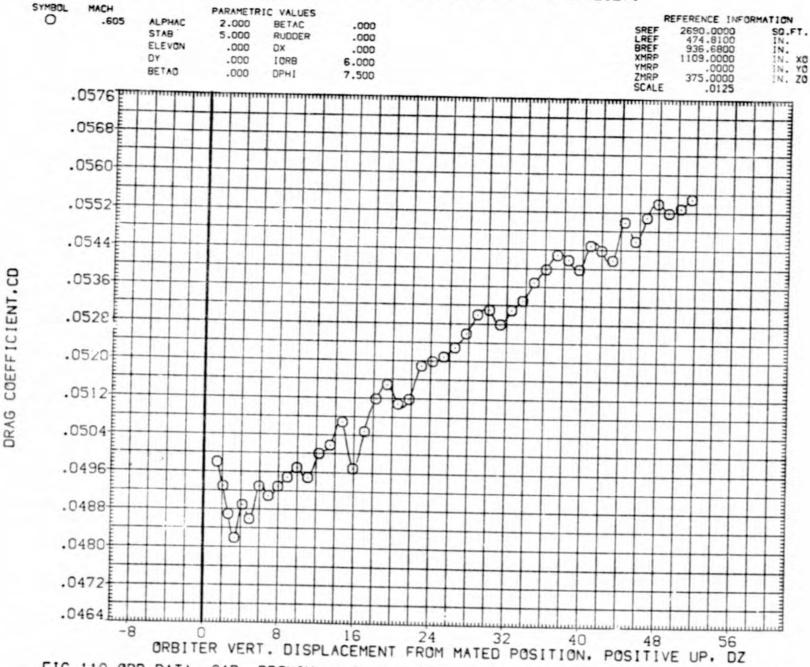


FIG.118 ORB DATA, CAR. PROXIM., ALPHAC=2, IORB=6, BETAC=0, BETAO=0, DELPHI=7.5, AFE127

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE128)

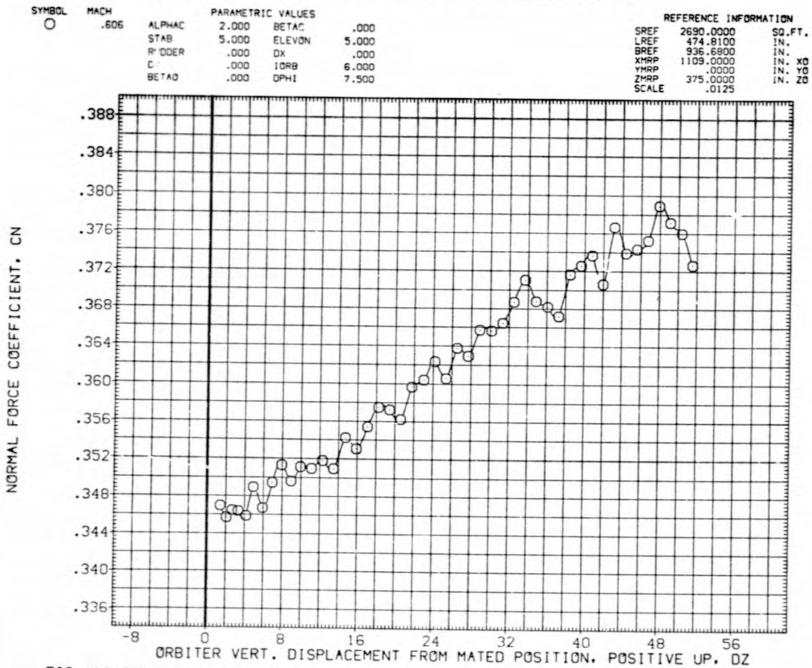


FIG.119 ORB DATA, CAR. PROXIM., ALPHAC=2, IORB=6, BETAC=0, BETAC=0, DELPHI=7.5, AFE128

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE128)

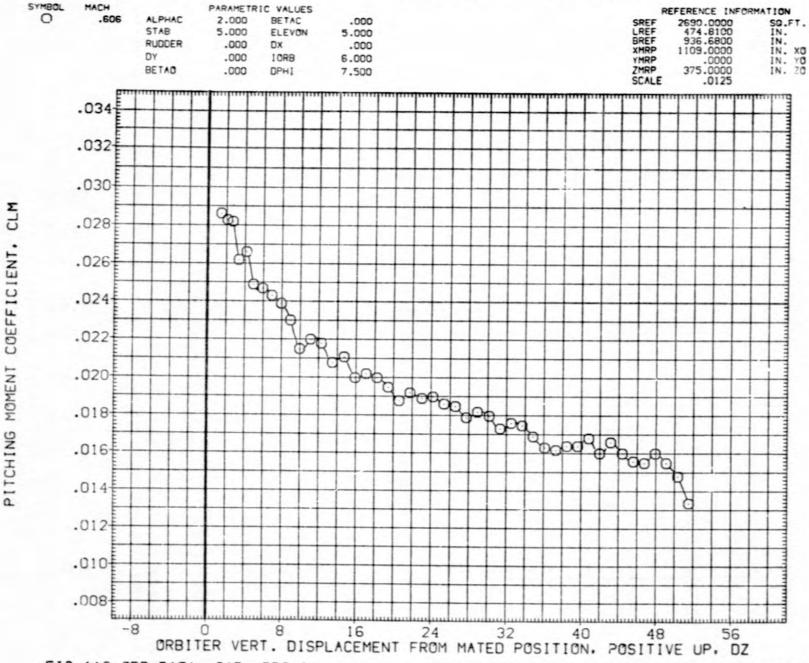


FIG.119 ORB DATA, CAR. PROXIM..ALPHAC=2, IORB=6, BETAC=0, BETAO=0, DELPHI=7.5, AFE128

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE128)

water of

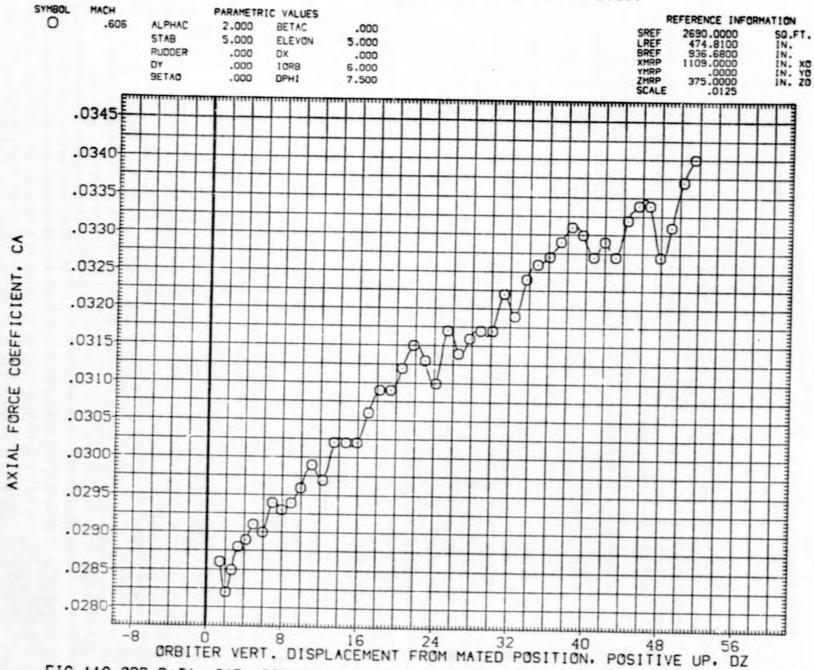


FIG. 119 ORB DATA, CAR. PROXIM., ALPHAC=2, IORB=6, BETAC=0, BETAO=0, DELPHI=7.5, AFE128

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE128)

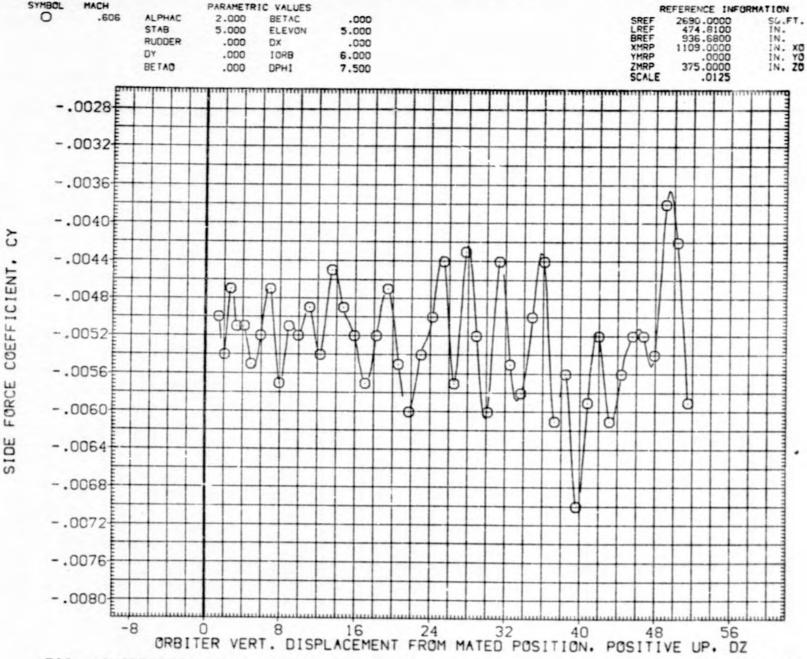
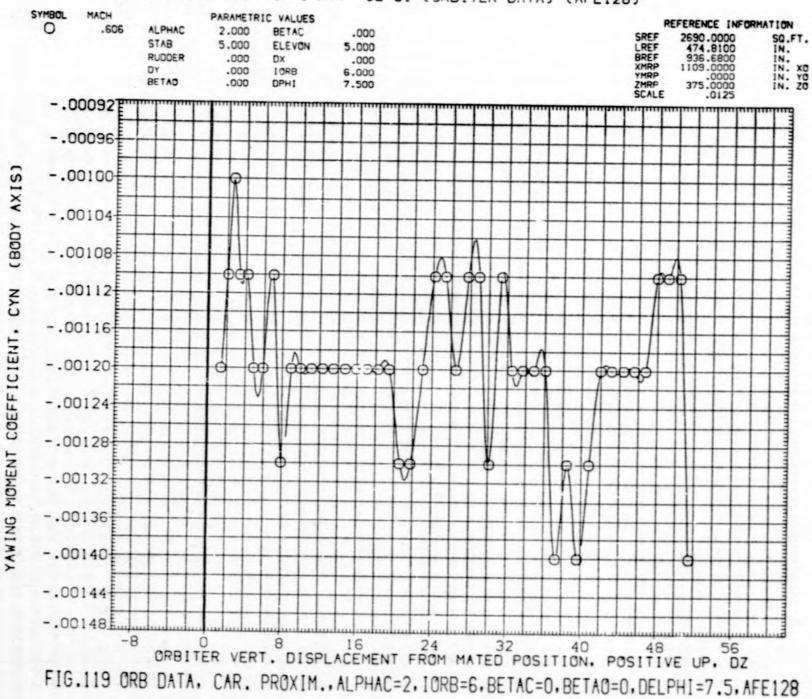


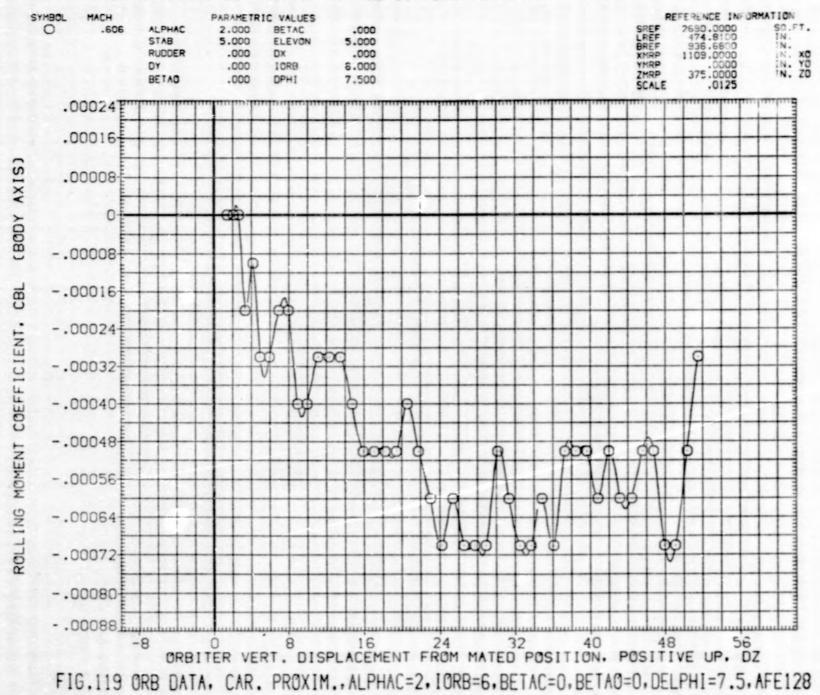
FIG.119 ORB DATA, CAR. PROXIM..ALPHAC=2, IORB=6, BETAC=0, BETAO=0, DELPHI=7.5, AFE128

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE128)

0



LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE128)



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LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE128)

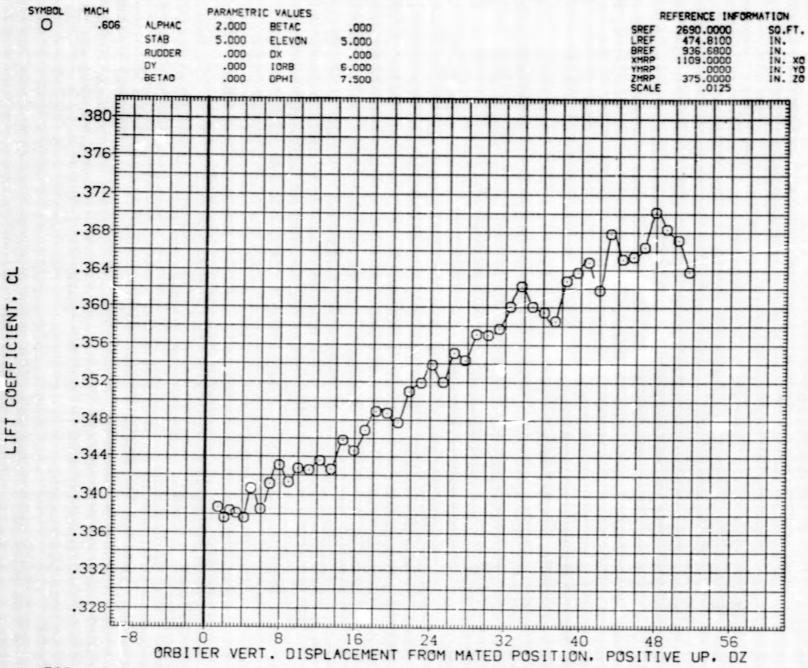


FIG.119 ORB DATA, CAR. PROXIM., ALPHAC=2, IORB=6, BETAC=0, BETAO=0, DELPHI=7.5, AFE128

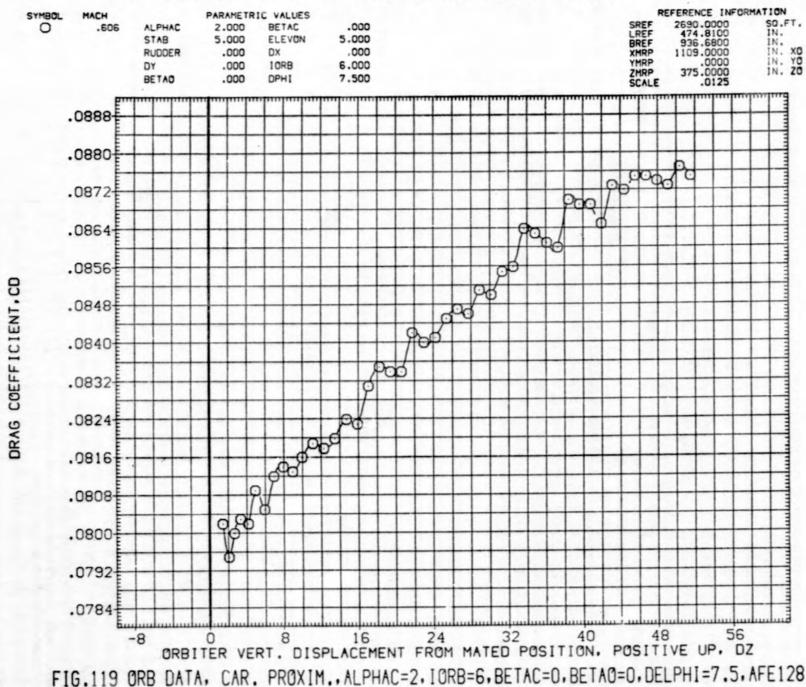


FIG.119 ORB DATA, CAR. PROXIM., ALPHAC=2, IORB=6, BETAC=0, BETAO=0, DELPHI=7.5, AFE128 928 PAGE

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE129)

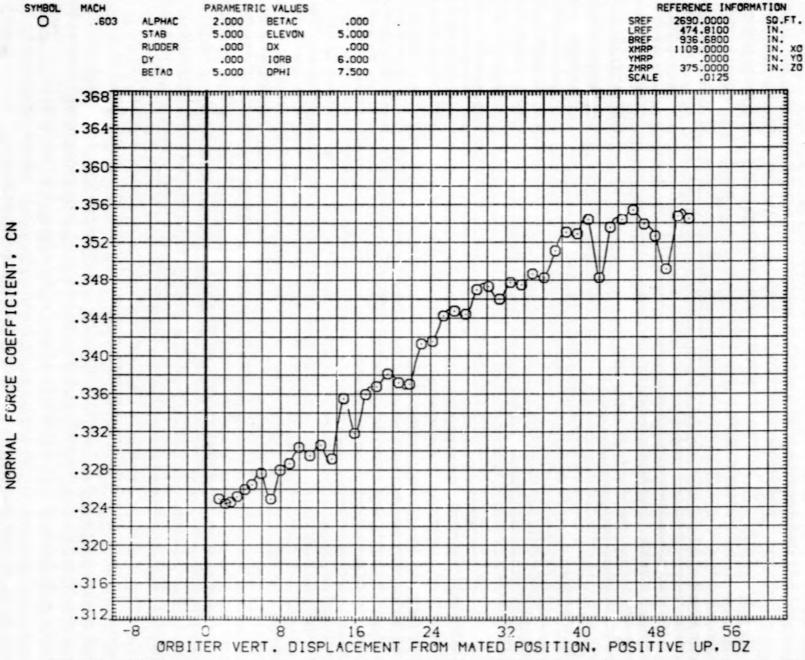


FIG.120 ORB DATA, CAR. PROXIM., ALPHAC=2, IORB=6, BETAC=0, BETAO=5, DELPHI=7.5, AFE129

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE129)

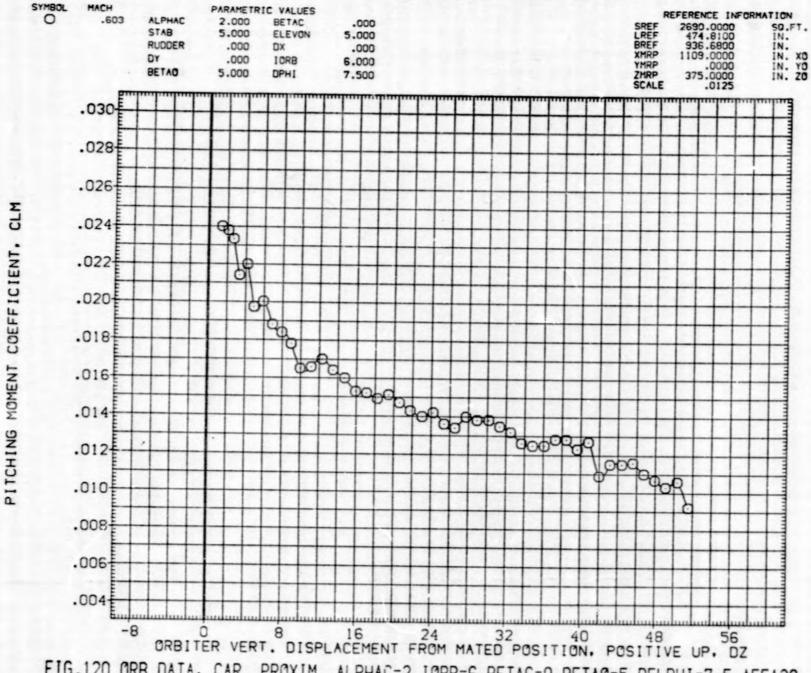


FIG. 120 ORB DATA, CAR. PROXIM., ALPHAC=2, IORB=6, BETAC=0, BETAO=5, DELPHI=7.5, AFE129

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE129)

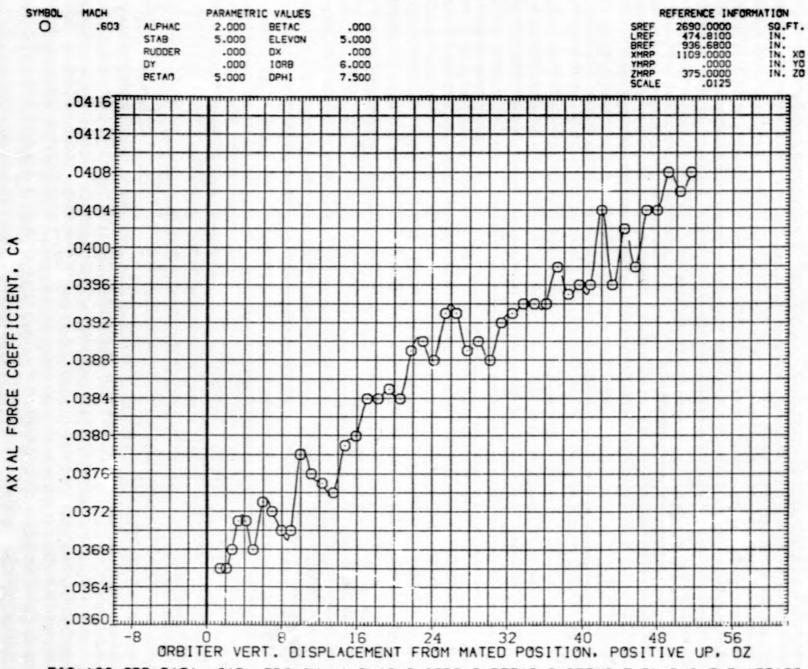


FIG. 120 ORB DATA, CAR. PROXIM., ALPHAC=2, IORB=6, BETAC=0, BETAO=5, DELPHI=7.5, AFE129

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE129)

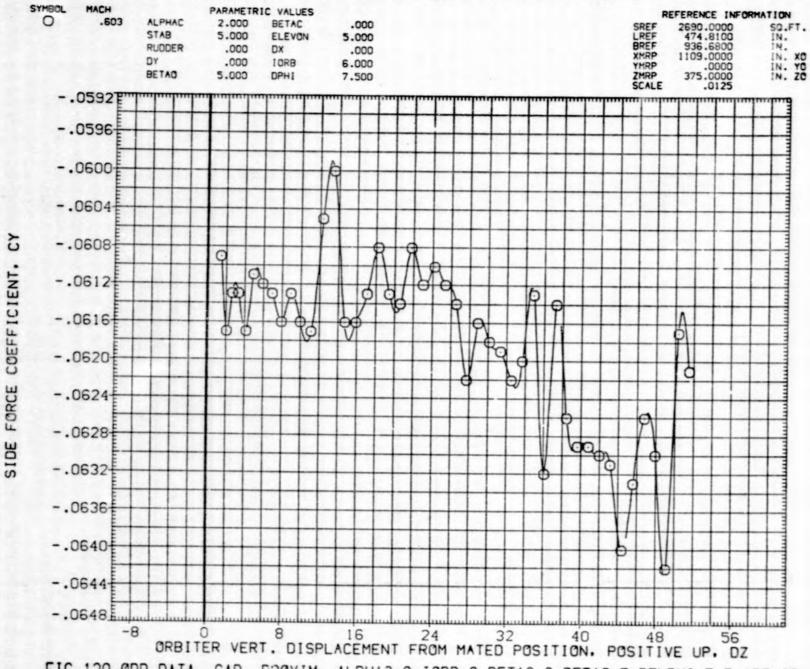
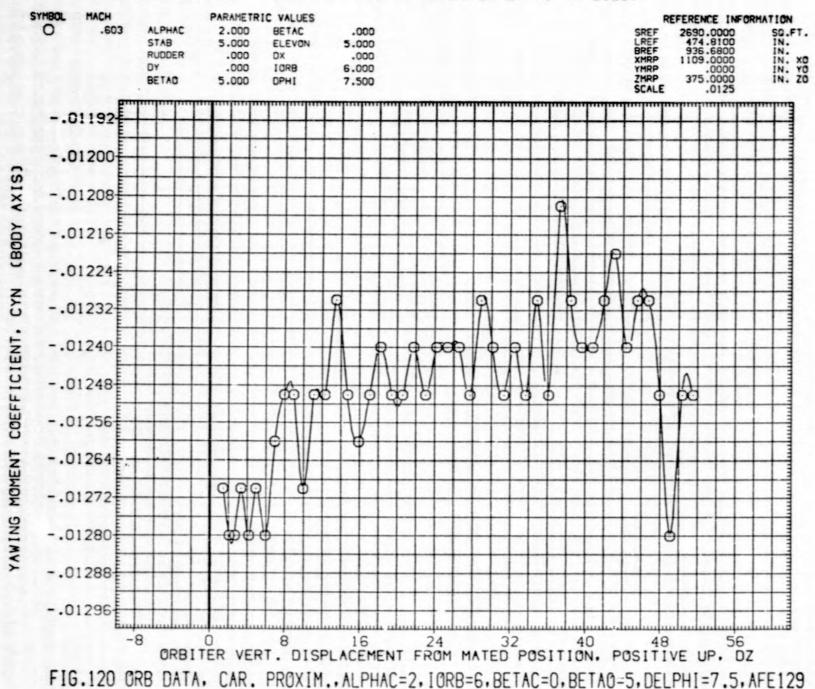


FIG. 120 ORB DATA, CAR. PROXIM., ALPHAC=2, IORB=6, BETAC=0, BETAO=5, DELPHI=7.5, AFE129

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE129)



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LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE129)

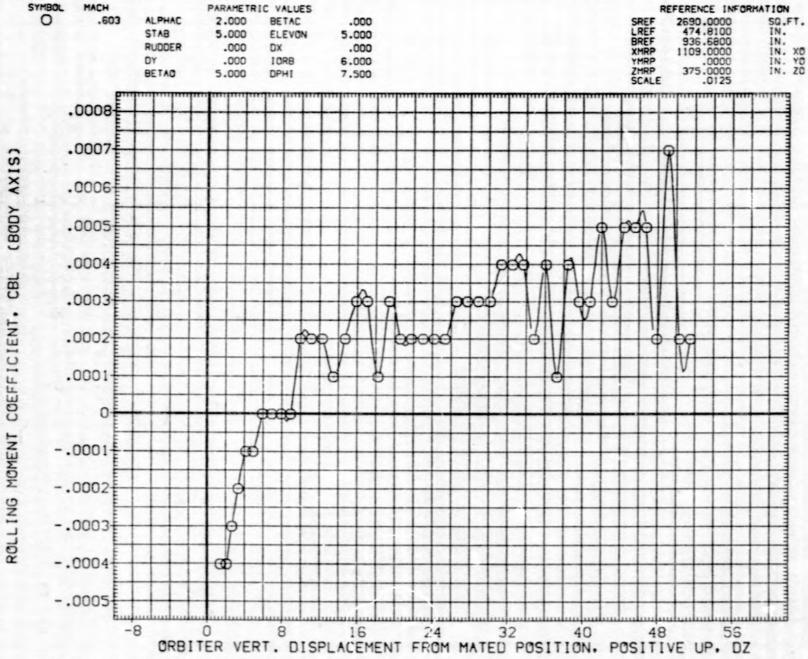


FIG.120 ORB DATA, CAR. PROXIM., ALPHAC=2, IORB=6, BETAC=0, BETAO=5, DELPHI=7.5, AFE129

LTV44-559(CA26) 747/1 ATY 02 SI (ORBITER DATA) (AFE129)

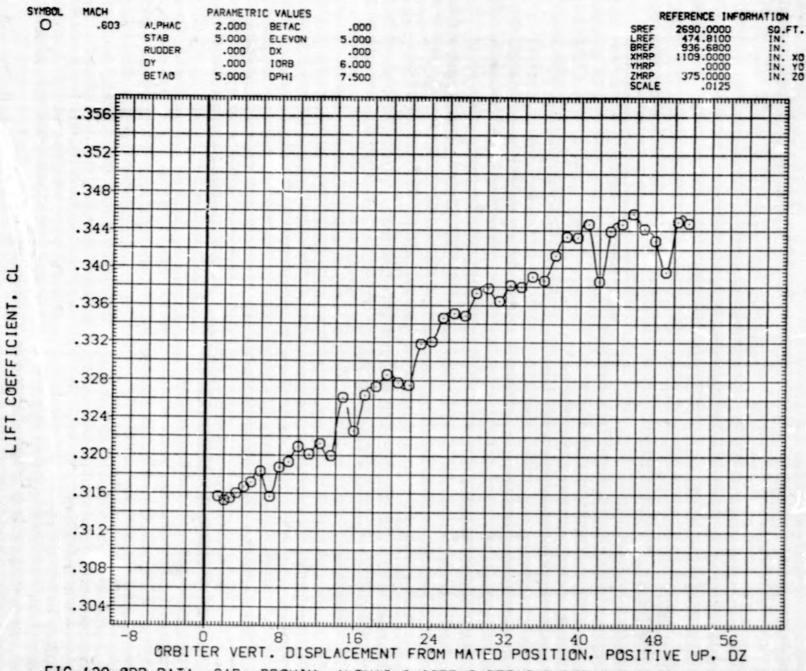


FIG.120 ORB DATA, CAR. PROXIM., ALPHAC=2, IORB=6, BETAC=0, BETAO=5, DELPHI=7.5, AFE129

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE129)

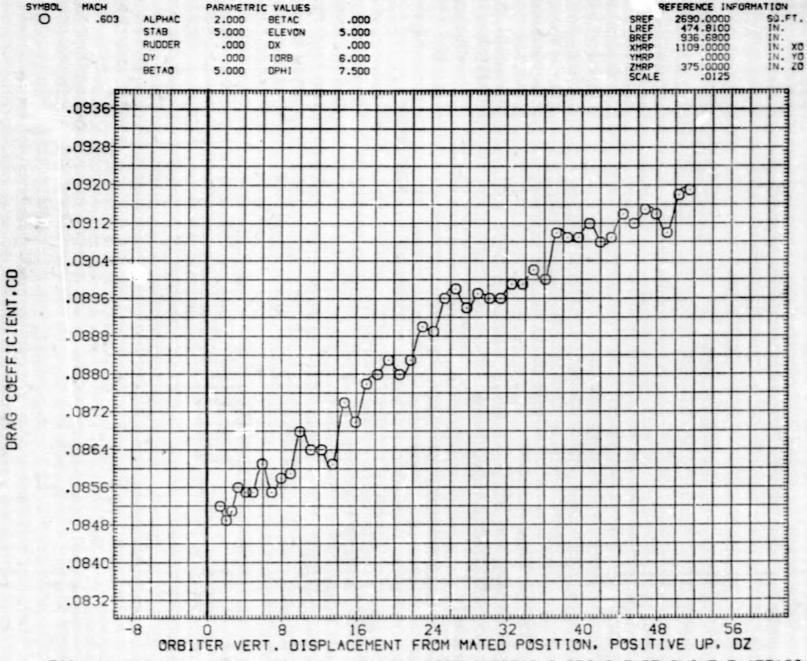


FIG.120 ORB DATA, CAR. PROXIM., ALPHAC=2. IORB=6.BETAC=0.BETAO=5.DELPHI=7.5.AFE129

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE130)

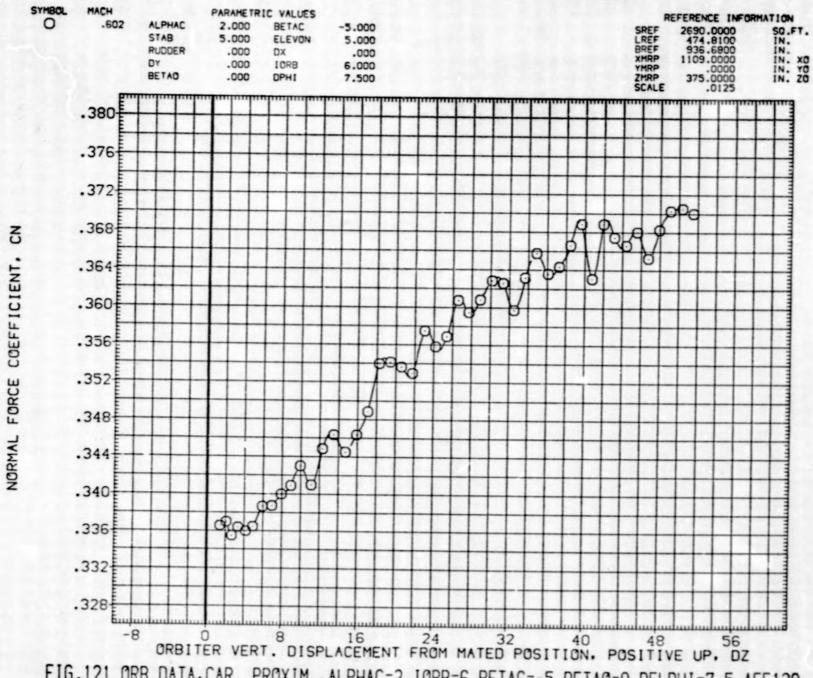


FIG.121 ORB DATA, CAR. PROXIM., ALPHAC=2, IORB=6, BETAC=-5, BETAO=0, DELPHI=7.5, AFE130

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE130)

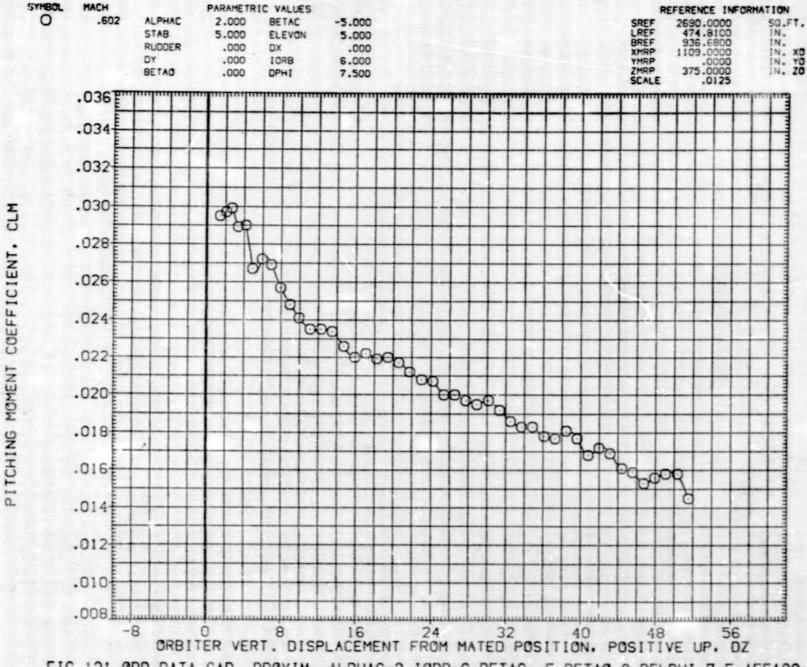
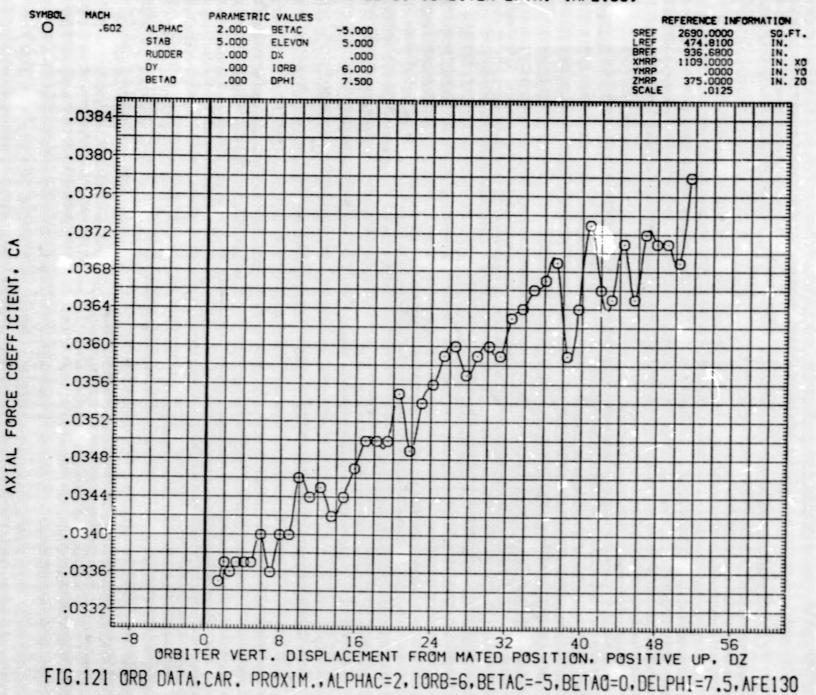


FIG.121 ORB DATA, CAR. PROXIM., ALPHAC=2, IORB=6, BETAC=-5, BETAO=0, DELPHI=7.5, AFE130

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE130)



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LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE130)

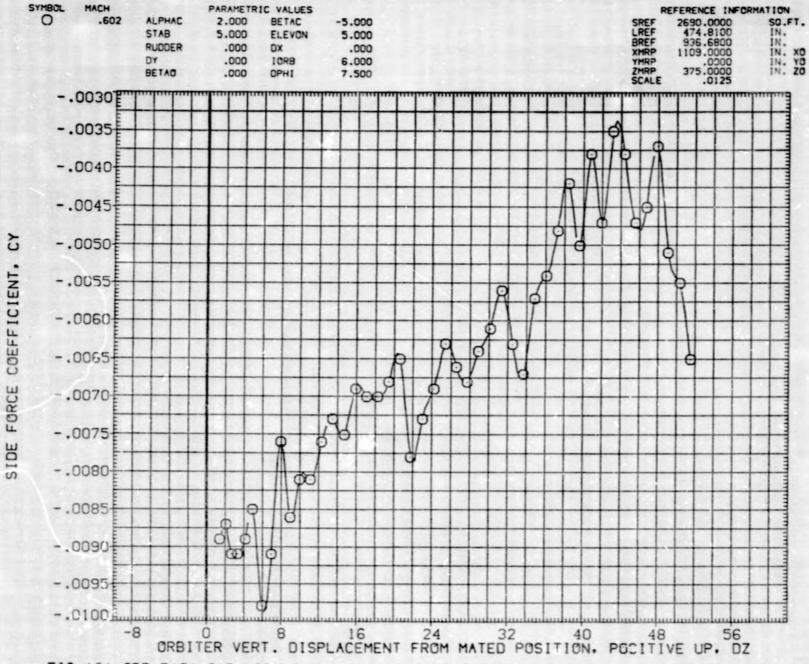


FIG.121 ORB DATA, CAR. PROXIM., ALPHAC=2, 10RB=6, BETAC=-5, BETAO=0, DELPHI=7.5, AFE130

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE130)

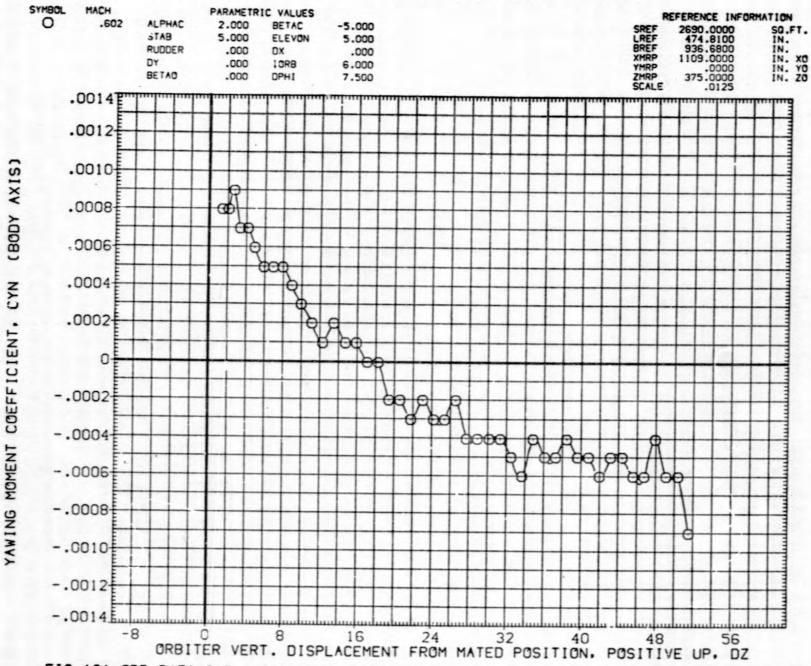


FIG.121 ORB DATA, CAR. PROXIM., ALPHAC=2, IORB=6, BETAC=-5, BETAO=0, DELPHI=7.5, AFE130

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE130)

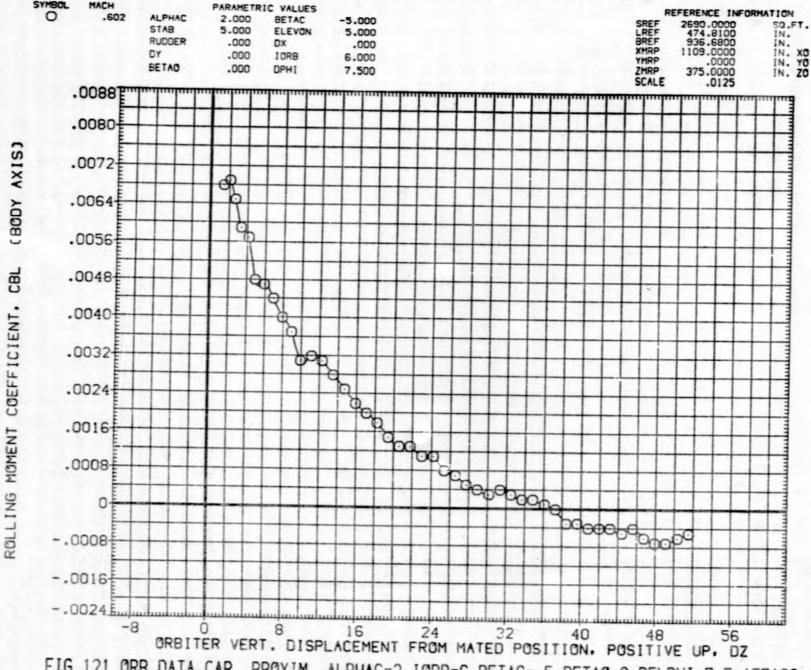


FIG. 121 ORB DATA, CAR. PROXIM., ALPHAC=2, IORB=6, BETAC=-5, BETAO=0, DELPHI=7.5, AFE130

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE130)

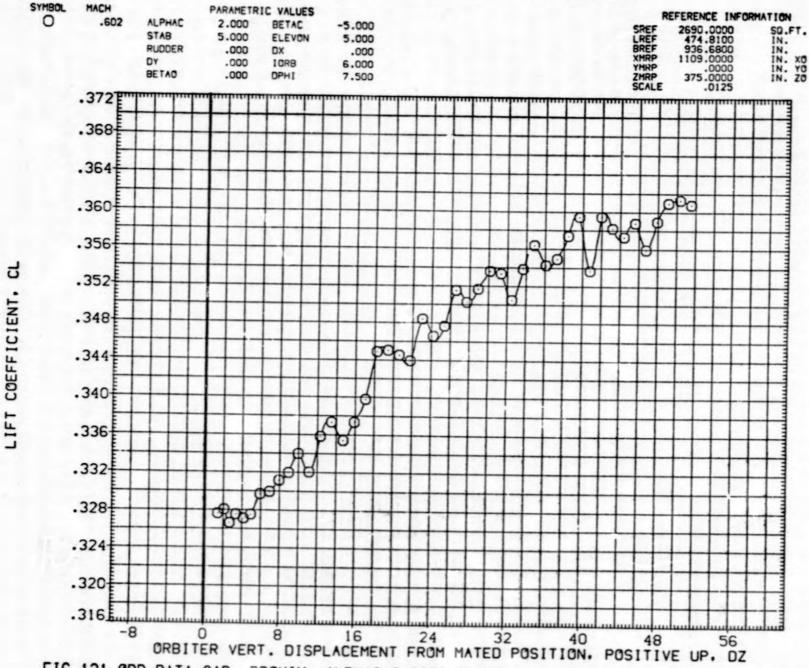


FIG.121 ORB DATA, CAR. PROXIM., ALPHAC=2, IORB=6, BETAC=-5, BETAO=0, DELPHI=7.5, AFE130

LTV44-559(CA26) 747/1 ATY 02 S1 (ORBITER DATA) (AFE130)

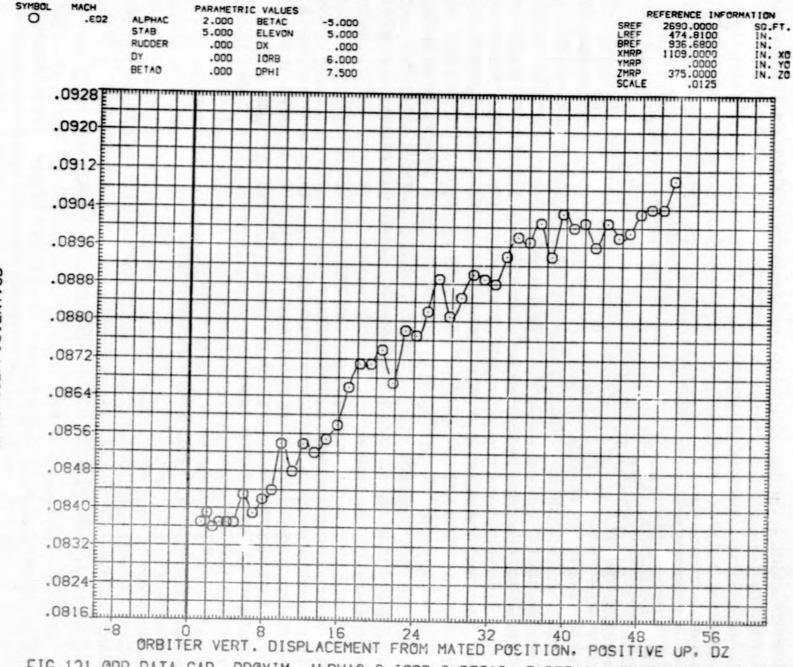
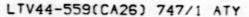


FIG. 121 ORB DATA, CAR. PROXIM., ALPHAC=2, IORB=6, BETAC=-5, BETAO=0, DELPHI=7.5, AFE130

SYMBOL	MACH .599	BETAC RUDDER		.000 .000	STAB		000								SREF LREF BREF XMRP YMRP ZMRP SCALE	5500 327 2348 1339	CE INFO .0000 .7800 .0400 .9000 .0000 .7500 .0125	RHAT	ION SO.F
	.1032								-		H		-					-	-
	.1028		#	H		#	\dashv		+		H		-	H			\blacksquare		
	.1024						H						\pm		9			-	
5	.1020			H		$\overline{+}$	H	-	-	H	H	+		/			++	+	
	.1016			H		+	H		-	H	-		1		8		+	+	1
	.1012		+	-			H	-	-		1		-						
	.1008		+			-	H		/									+	-
	.1004			H			1		-		++		+				+	+	
	.1000		-	1		1		-	+	H	H		+					+	
	.0996					1	H				H		-						
	.0992			1	5	\blacksquare	H	-			H	-	+					-	
	.0988		-	-			-	+			+	-	-	H				-	
	.0984												-					-	
	.0980																		
	.09	5	098		00	.10	2 7 AN	.1	04	ATT	106	AI F	.108 PHAC	3	.110		.112		114

FIG.122 CARRIER ISOLATED, RFE016



(RFE016)

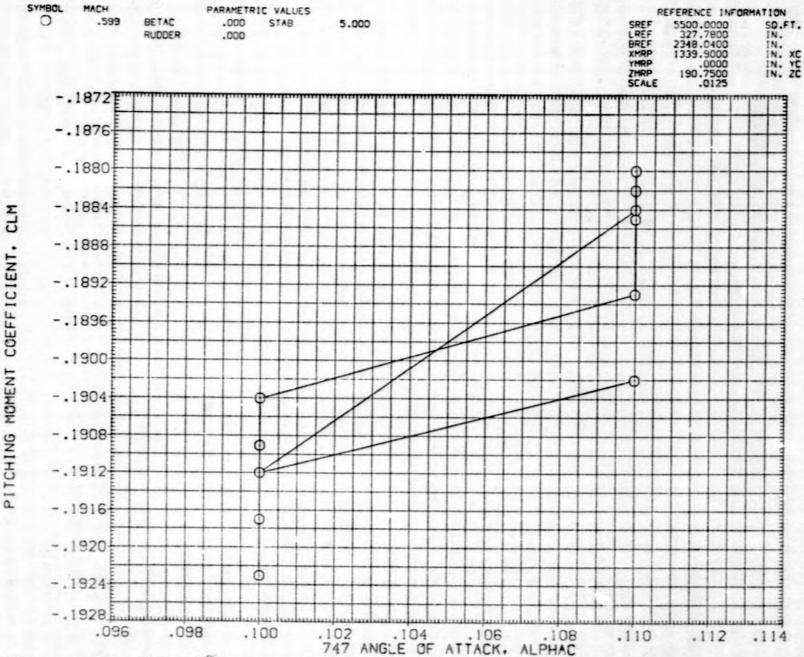


FIG. 122 CARRIER ISOLATED, RFE016

LTV44-559(CA26) 747/1 ATY

(RFE016)

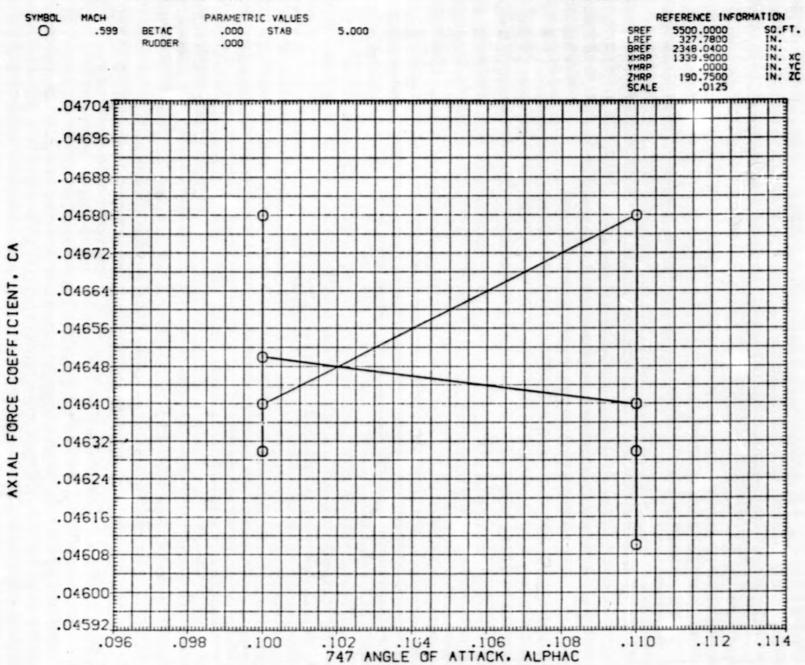


FIG.122 CARRIER ISOLATED, RFE016

.104

.106

747 ANGLE OF ATTACK, ALPHAC

.108

.110

.102

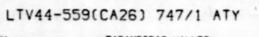
FIG.122 CARRIER ISOLATED, RFE016

.100

.0037

.0036

.0035



(RFE016)

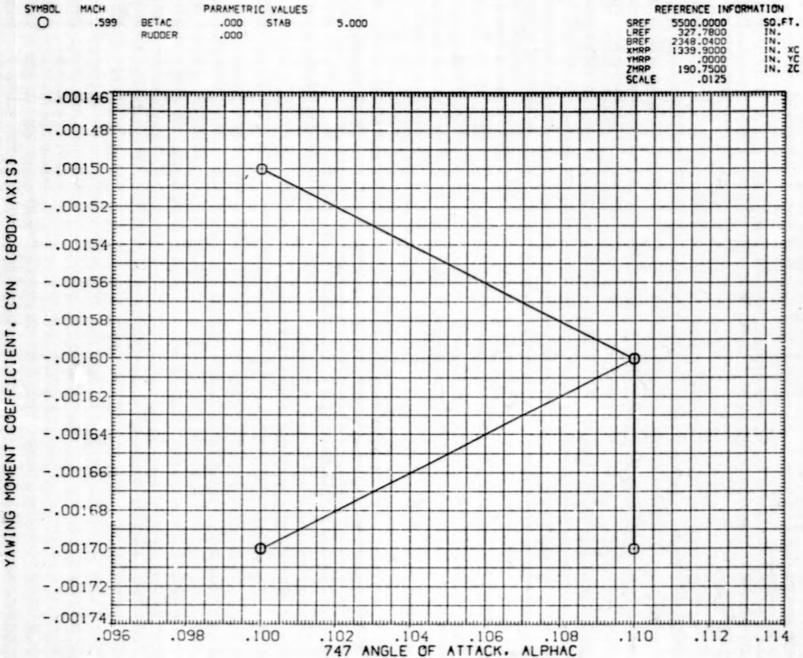
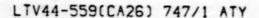


FIG.122 CARRIER ISOLATED, RFE016



(RFE016)

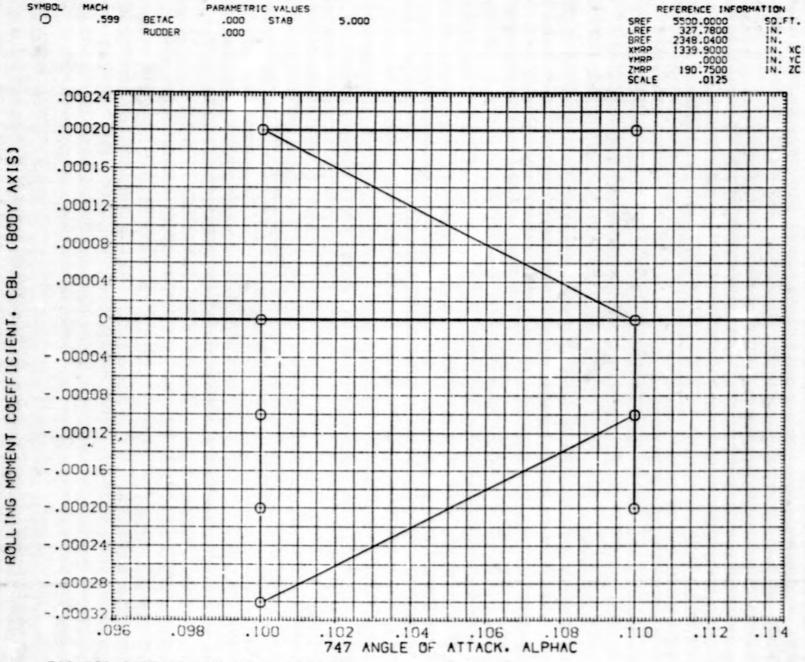


FIG.122 CARRIER ISOLATED, RFE016

YMBOL O	MACH .599	BETAC RUDDER	.000 STAB	5.000					SREF LREF BREF XMRP YMRP ZMRP SCALE	5500.0000 327.7800 2348.0400 1339.9000 190.7500	FORMATION SO.F IN. IN. IN. IN.
	.1032							TTT			
	.1028					++	+	+	HH	+++	
	.1024						-	H	٥		
	.1020			##			#	1	1	+++	
	.1016			1			/	1	\Box	+++	
	.1012			111	4			-	-	##	
	.1008			444							
	.1004				1		#		10	1	
	.1000							H			
	.0996			4			#			+++	
	.0992						#		H		
	.0988						+				
	.0984		111				+				
	.0980						+				
	.0976	.09	98 .100	.102	.104 NGLE 0		.108		.110	.112	.114

FIG.122 CARRIER ISOLATED, RFE016

.102 .104 .106 .108 747 ANGLE OF ATTACK, ALPHAC

FIG.122 CARRIER ISOLATED, RFE016

.100

.098

.04632

.04624

.04616+

.096

.114

.112

0

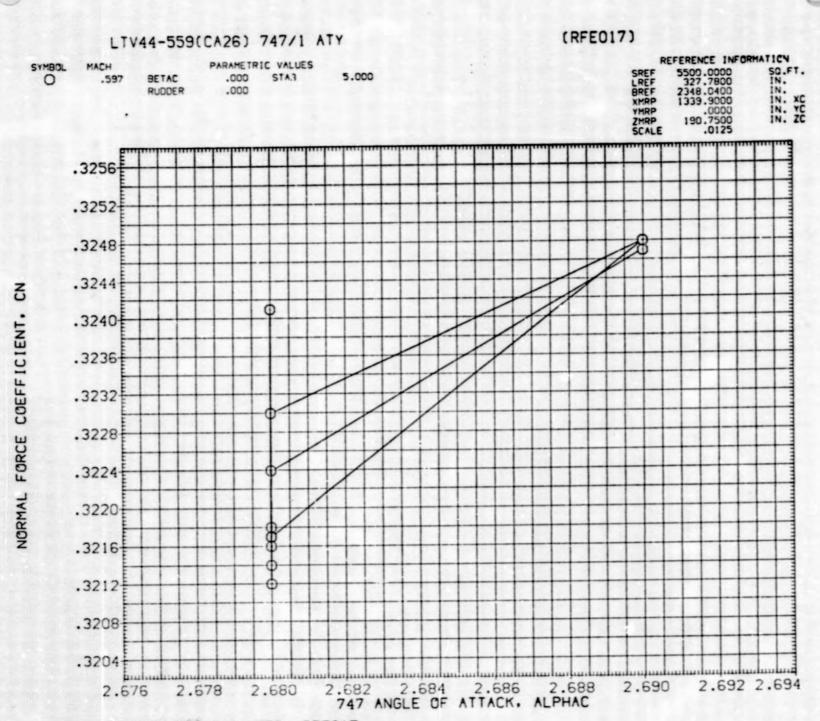


FIG.123 CARRIER ISOLATED, RFE017

FIG.123 CARRIER ISOLATED, RFE017

2.680

2.682

2.684

2.686

747 ANGLE OF ATTACK, ALPHAC

2.688

2.690

2.678

2.676

2.692 2.694



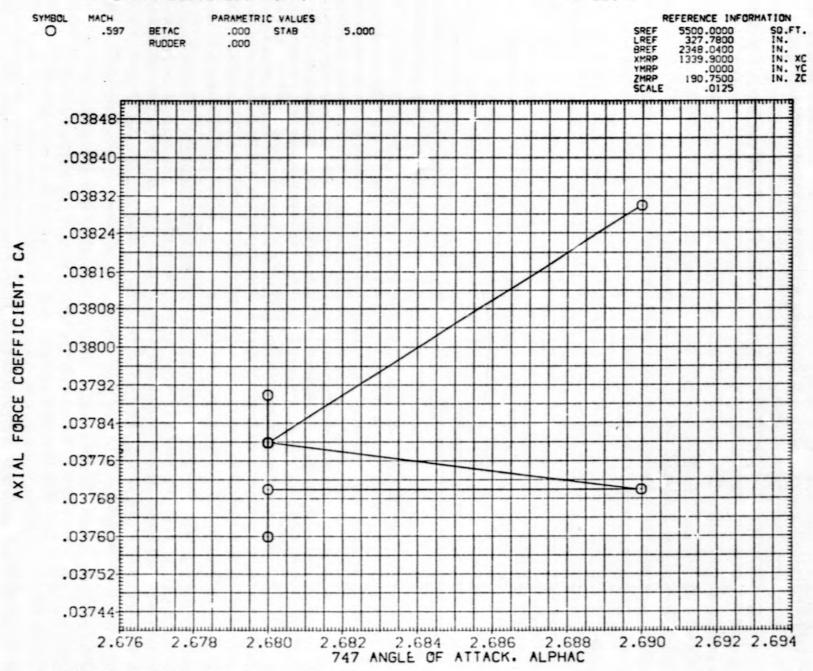


FIG.123 CARRIER ISOLATED, RFE017



FIG.123 CARRIER ISOLATED, RFE017

LTV44-559(CA26) 747/1 ATY

S	O	.597	BETAC RUDDER	.000 STAB	5.000								SREF LREF BREF XMRP YMRP ZMRP SCALE	5500.0 327.7 2348.0 1339.9 190.7	000 800 400	SO.F
	-	.00098														
	-	.00099			+++	\dashv	+	\vdash	H	+	+		+	#		
	-	.00100		φ		+	+	+	+	+	+	H	-	+		
	-	.00101							\prod	+		1	$\frac{1}{1}$			
	-	.00102					-			+	X	H				
COEFFICIENI. CIN	-	.00103					-			X						
	-	.00104					-		A	-		H				
	-	.00105					-	4	\mathbf{H}	+						
	-	.00106					4			-		H				
	-	.00107				4	-	-	+	+		H	\blacksquare	-	-	+
	-	.00108					+	H	H	F		H	+			-
	-	.00109			1		+	H	\Box	F		H				
	-	.00110					-		H	F		H			-	+
	-	.00111					+	H	+	+		H				
	-	.00112	6 2.6	78 2.680	2.682	2.6			686		2.68		2.690		692	2 60

FIG.123 CARRIER ISOLATED, RFE017



FIG.123 CARRIER ISOLATED, RFE017

LTV44-559(CA26) 747/1 ATY

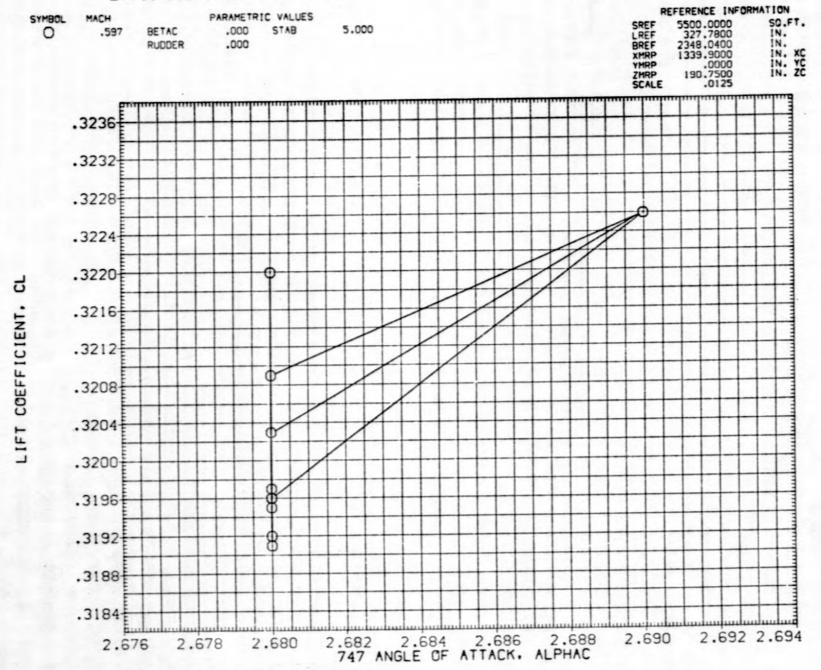
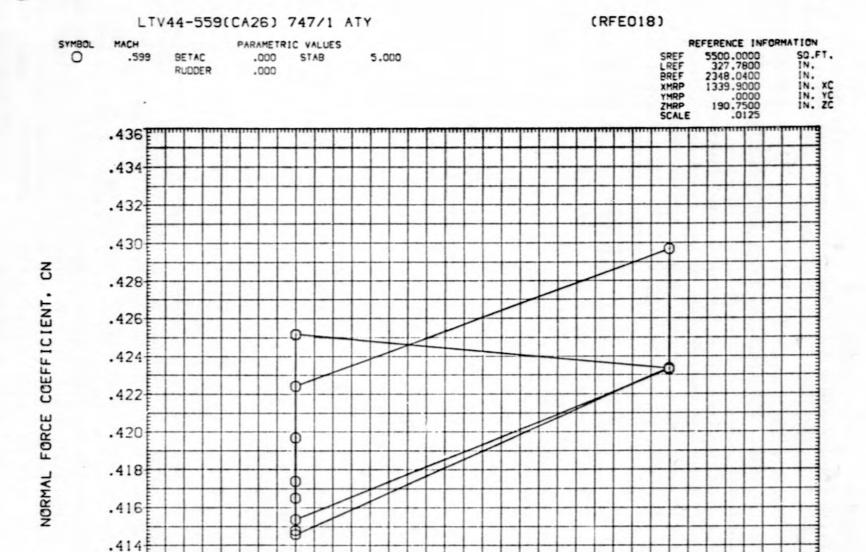




FIG.123 CARRIER ISOLATED, RFE017



3.812 3.814

3.816

747 ANGLE OF ATTACK. ALPHAC

3.818

FIG.124 CARRIER ISOLATED, RFE018

3.808

.408

3.810

.412

.410

3.806

3.822 3.824

3.812 3.814

FIG.124 CARRIER ISOLATED, RFE018

3.808

3.810

-.2376

-.2384

-.2392-

3.806

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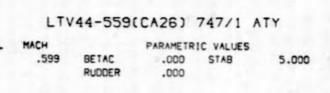
3.822 3.824

3.820

3.818

3.816

147 ANGLE OF ATTACK. ALPHAC



(RFE018)

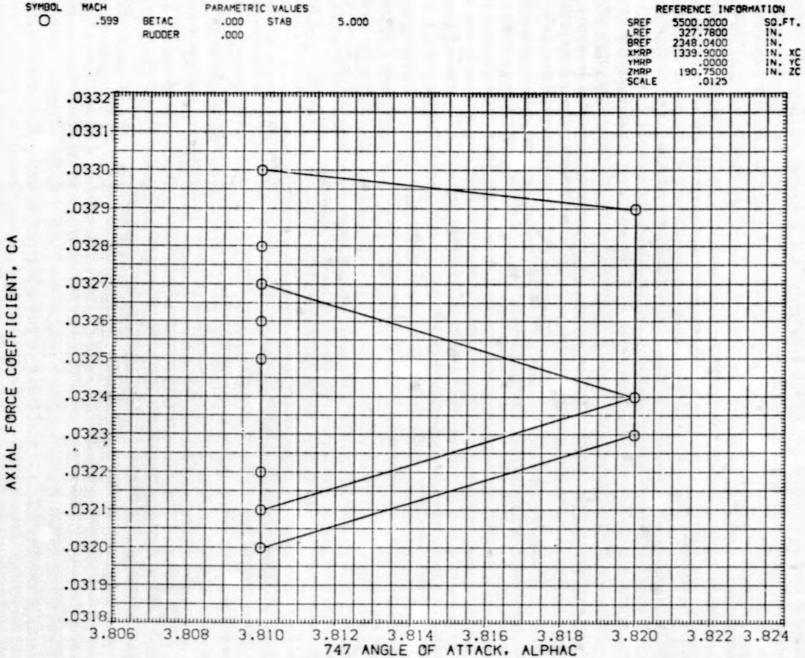


FIG.124 CARRIER ISOLATED, RFE018

3.812

3.814

3.816

747 ANGLE OF ATTACK, ALPHAC

FIG.124 CARRIER ISCLATED, RFE018

3.810

3.808

-.00048

-.00052

3.806

PAGE 964

3.822 3.824

3.818

LTV44-559(CA26) 747/1 ATY (RFE018) SYMBOL PARAMETRIC VALUES REFERENCE INFORMATION SO.FT. IN. IN. XC IN. YC IN. ZC 5500.0000 327.7800 2348.0400 1339.9000 .0000 190.7500 .0125 SREF LREF BREF XMRP YMRP ZMRP SCALE 0 BETAC 5.000 RUDDER .000 -.00048T -.00052 (BODY AXIS) -.00056 -.00060 -.00064 -.00068-CYN -.00072 YAWING MOMENT COEFFICIENT. -.00076 -.00080--.00084 -.00088 -.00092 -.00096-

3.812 3.814 3.816 3.818 747 ANGLE OF ATTACK, ALPHAC

FIG. 124 CARRIER ISOLATED, RFE018

3.808

3.810

-.00100

-.00104

3.806

3.822 3.824

REFERENCE INFORMATION

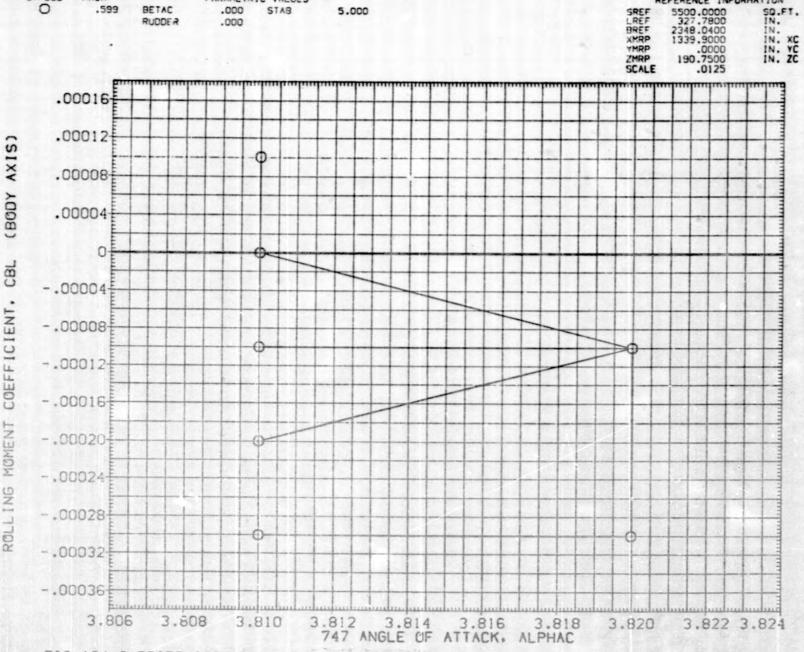
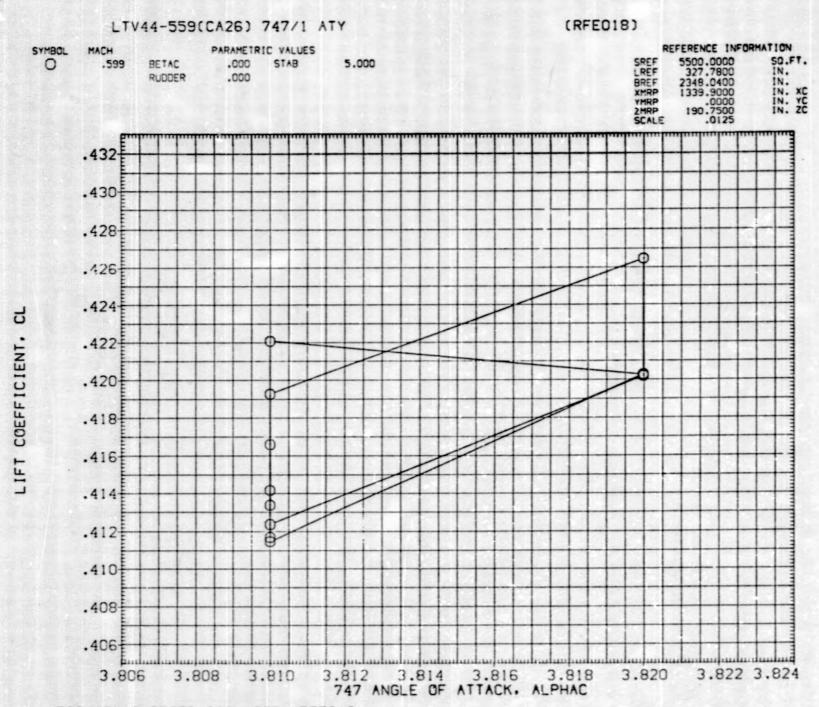


FIG.124 CARRIER ISOLATED, RFE018



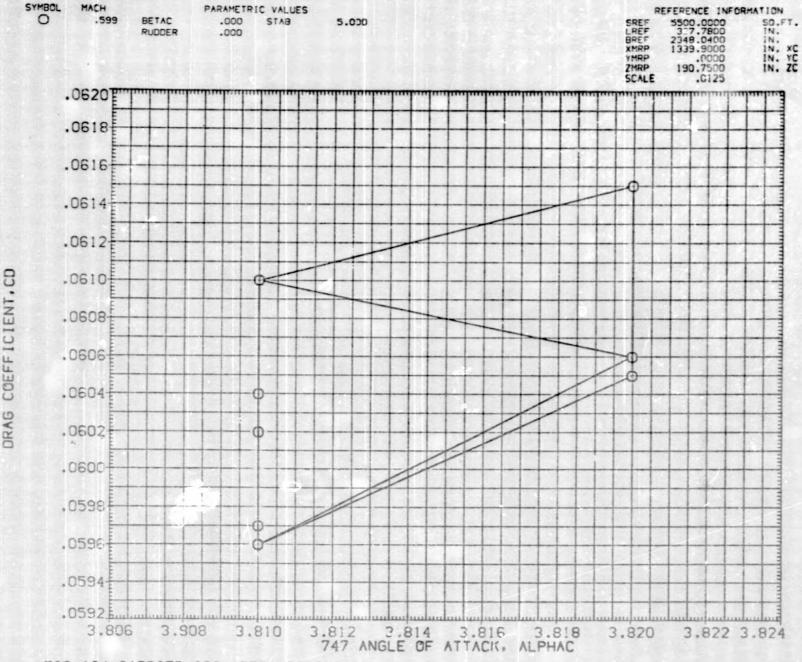


FIG.124 CARRIER +SOLATED, RFE018



LTV44-559(CA26) 747/1 ATY REFERENCE INFORMATION SO.FT. IN. IN. XC IN. YC IN. ZC 5.000 STAB RUDDER .000 .6168F .6160 .6152 Φ .6144 .6136 COEFFICIENT, .6128 .6120 .6112 FORCE .6104 .6096 NORMAL .6088 .6080 .6072

(RFE019)

8 9 10 11 12 13 14 15 16 17 18 19 20 747 ANGLE OF ATTACK, ALPHAC

FIG.125 CARRIER ISOLATED, RFE019

6

.6064

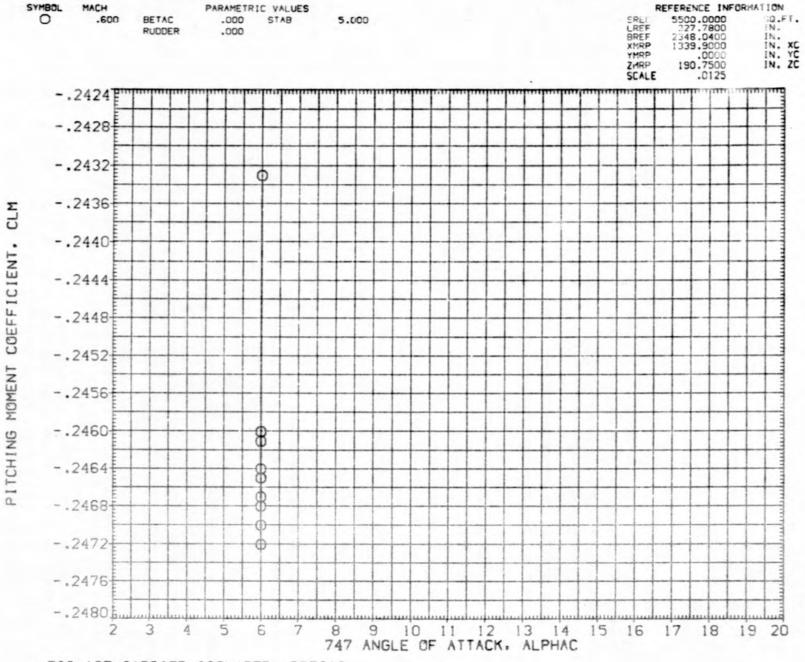


FIG.125 CARRIER ISOLATED, RFE019



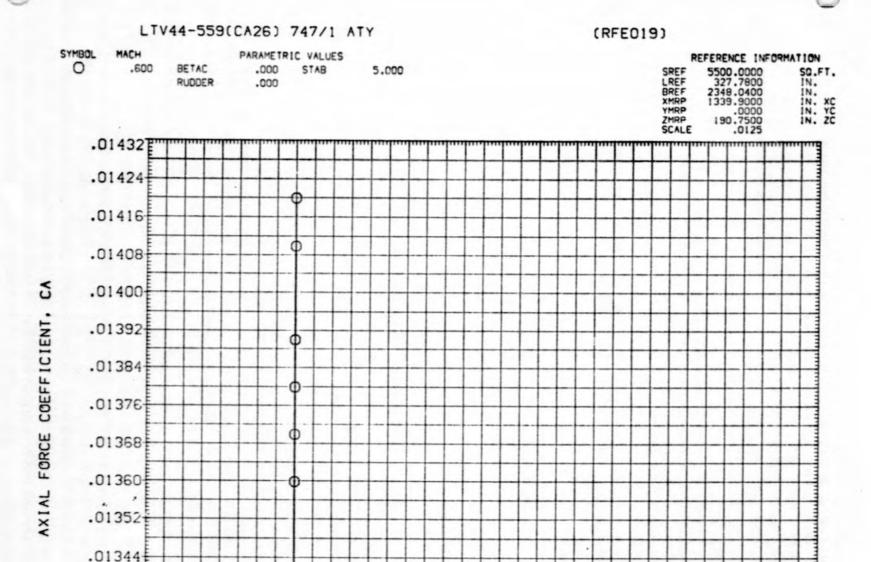


FIG.125 CARRIER ISOLATED, RFE019

Φ

7 8

.01336

.01328

.01320E....

9 10 11 12 13 14 15 16 17 18 19 20

747 ANG' E OF ATTACK. ALPHAC

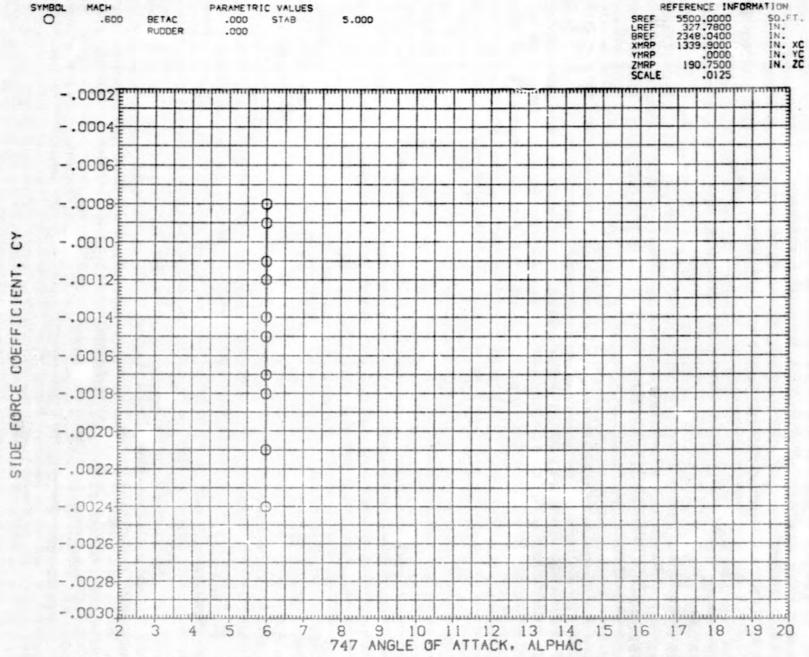


FIG. 125 CARRIER ISOLATED, RFE019



(RFE019)

0	.630	BETAC RUDDER	.000	STAB	5.000								SREF LREF BREF XMRF YMRF ZMRF SCAL	2	500.00 327.76 348.04 339.90 .00 190.75	000 000 000 000		IN IN
	.000eeE						""		7""	"	""	1	7	TT		"	1	T
	83000.				-	-		-	+	+	-	-	-	H	+	+	+	+
	.00070		+ + +	•						H	+	H		H		1	+	+
-	.00072		-								+			H			-	T
	.00074																-	I
	.00076							H	H	H	-		+-	H	-	+	+	+
	.00078										-					-	+	+
	.00080			φ														I
	.00082										+					+	\pm	+
	.00084				-	-		H	H	H	Ŧ	H	+	H		-	+	+
	.00086																	F
	.00088				+						-					-		-
	.00090			•						+	-					-	+	-
	.00092										-					+	-	F
	.00094	3 4		6 7	-	9 1	0 1	1	12	13	14	15	16	17	7 1		19	L

747 ANGLE OF ATTACK, ALPHAC

FIG.125 CARRIER ISOLATED, RFE019

PAGE 974

9 10 11 12 13 14 15 16 17 18 19 20



(RFE019)

O	.600	BETAC RUDDER	.000	STAB	5.000									SREF LREF BREF XMRP YMRP ZMRP SCALE	32 234 133	0.000 7.780 8.040 9.900 .000 0.750	NFORM 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	SO. IN. IN. IN.
	.6120							7"7"	TT	"		"	T"					-
	.6112					+				+		+			+	+	H	+
	.6104							H	+	-	H	+	F		+	-	H	+
	.6096					-		H	-	+		-	-		+		H	-
	.6088			0		+		\blacksquare	+	-		+	F		-		H	+
	.6080			•		+		H		+		+	F		+	H	H	7
	.6072		111	6		+				+		+	F		+		\parallel	#
	.6064			1111		1				1		+			+		H	#
	.6056		111	\$						+		+	F		+		\parallel	#
	.6048					#		H		+		+			+			#
	.6040			ф		1		#		+		+			+		\parallel	#
	.6032									+		#			+		\parallel	+
	.5024		111	6						-		+		#	+		\parallel	#
	.6016		###							+		+			+		\parallel	+
	.6008	3 4		6 7	8 9		0				1			16	17	18	19	9 :

FIG.125 CARRIER ISOLATED, RFE019

FIG.125 CARRIER ISOLATED, RFE019

5

6

.0766

.0764

.0762

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7 8 9 10 11 12 13 14 15 16 17 18 19 20

747 ANGLE OF ATTACK, ALPHAC



(RFE020)

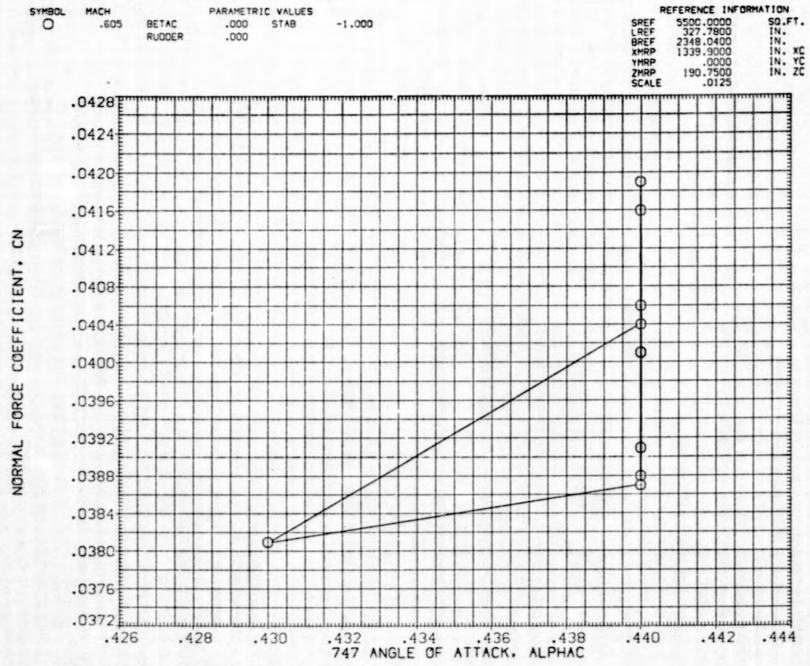


FIG. 126 CARRIER ISOLATED, RFE020

.434 .436

747 ANGLE OF ATTACK, ALPHAC

.432

FIG. 126 CARRIER ISOLATED, RFE020

.428 .430

.1348

.1344

.426

PAGE 978

.440

.438

.442 .444

(RFE020)

SYMBOL	,605	BETAC RUDDER	PARAM .00		TAB	-1.00	10									SREF LREF BREF XMRP YMRP ZMRP ZMRP SCALE	550 32 234 133	0.0000 7.7800 8.0400 9.9000 .0000 0.7500		SO.F IN. IN. IN. IN.
	.04404E	TTTTT	1	1	1""		""	TT												
	.04400												-		1		+		\exists	
	.04396								-								+			
	.04392								+				+				+			
	.04388			+					1				+		1		1			
	.04384			+					+				+				+			
	.04380			- 0	+				+							φ-	+			
	.04376				-				+			-		\pm			1			
	.04372			-			-		-				-	-			1			
	.04368			-			-		+				+				1			
	.04364						-										+			
	.04360			-	-				-					-		•	-			
	.04356			++				+1	-	H							-			
	.04352									-	+	-		+			-			
	.04348		428	.43	10	.432		.4	34		436 ACK.					.440		.44	2	.44

(RFE020)

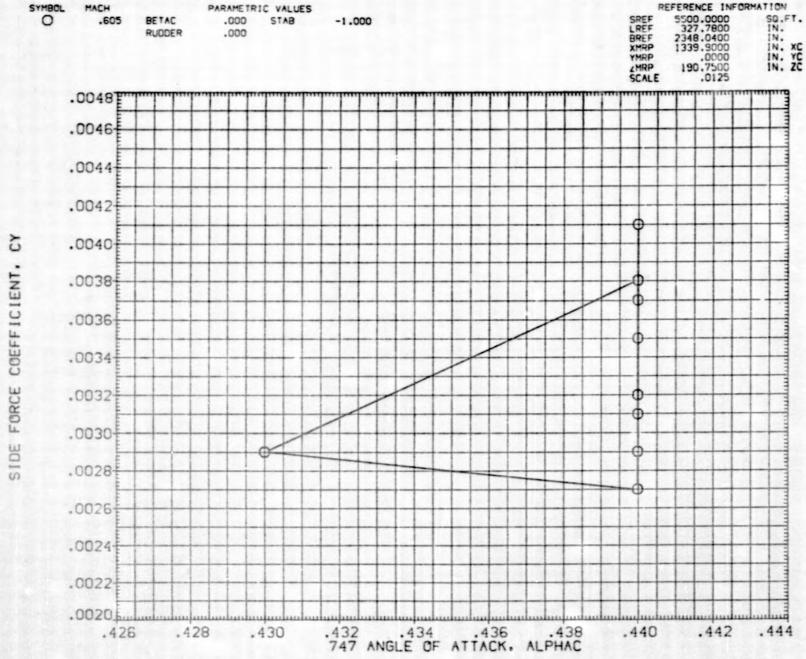


FIG. 126 CARRIER ISOLATED, RFE020



(RFE020)

MBOL MACH O .605	BETAC RUDDER	PARAM .01		AB	-1.	000								SREF LREF BREF XMRP YMRP ZMRP SCALE	190.	7800 7800	UKIN	
00176						7""	"	""	''' ''	T			""					
00178	+++	-	++		1	H			1	++	++	+	+		++	+	+	-
00180						H					\blacksquare		+	-	\blacksquare		-	
00182																		
00184																	+	
00186				-	H	H	-		-	+	+	+	+		+	+	+	+
00188						H												
00190			0			H	-							-			+	
00192					1				-								+	
00194						\prod	/	/										
00196				H		H			1	N					+			
00198												1						
00200						H	-							•			+	
00202																		
00204		28	.430		.43					1		.438		.440		442		

SYMBOL

REFERENCE INFORMATION

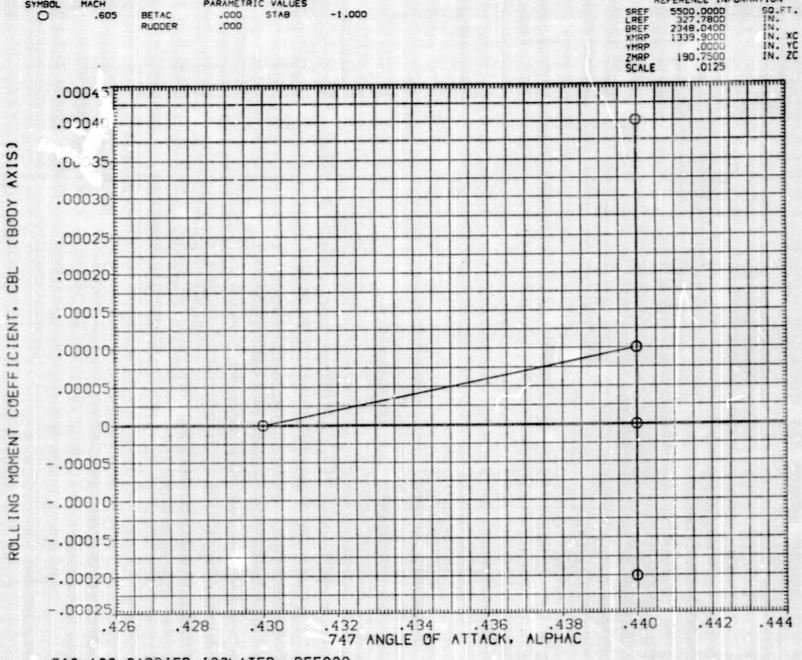


FIG. 126 CARRIER ISOLATED, RFE020

(RFE020)

MBOL O	MACH .605	BETAC RUDDER	.000	STAB	-1.000								SREF LREF BREF XMRP YMRP ZMRP SCALE	550 32 234	0.0000 7.7800 8.0400 9.9000 .0000 0.7500		IN IN IN
	.0424									H	H	-		+	H	H	+
	.0420			#			+		-	H	H	-		+		\blacksquare	1
	.0416												•				
	.0412										H	+	φ.	-	\vdash		1
	.0408									H	H	-					
	.0404									H	H	+		+		H	-
	.0400										H		1	-		\forall	-
	.0396										1		8			H	-
	.0392								/					-		\exists	
-	.0388						/				H		0	+	+	H	
	.0384											-	-6			\Box	-
	.0380					-	-	-						-		\forall	1
	.0376										H	+		+			-
	.0372											_			.44		

FIG.126 CARRIER ISOLATED, RFE020

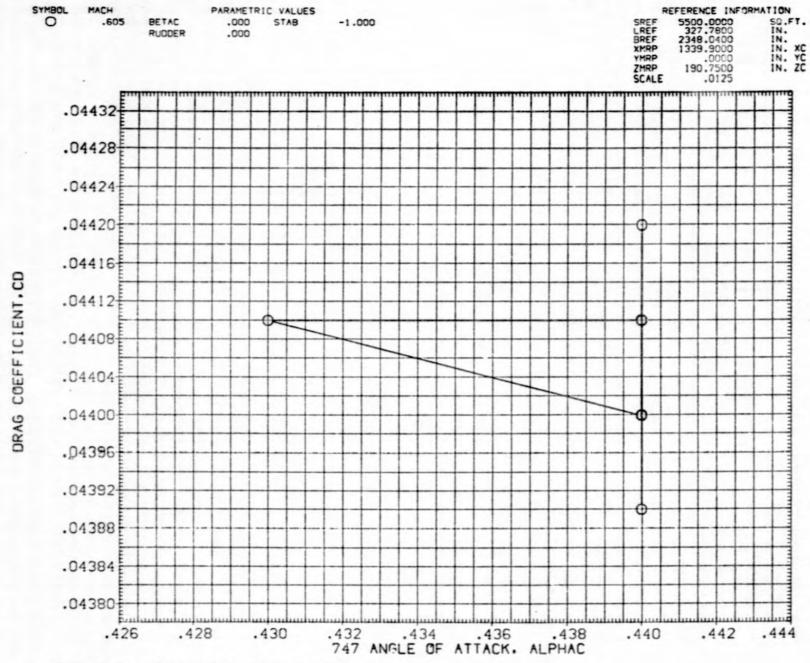


FIG.126 CARRIER ISOLATED, RFE020



(RFE021)

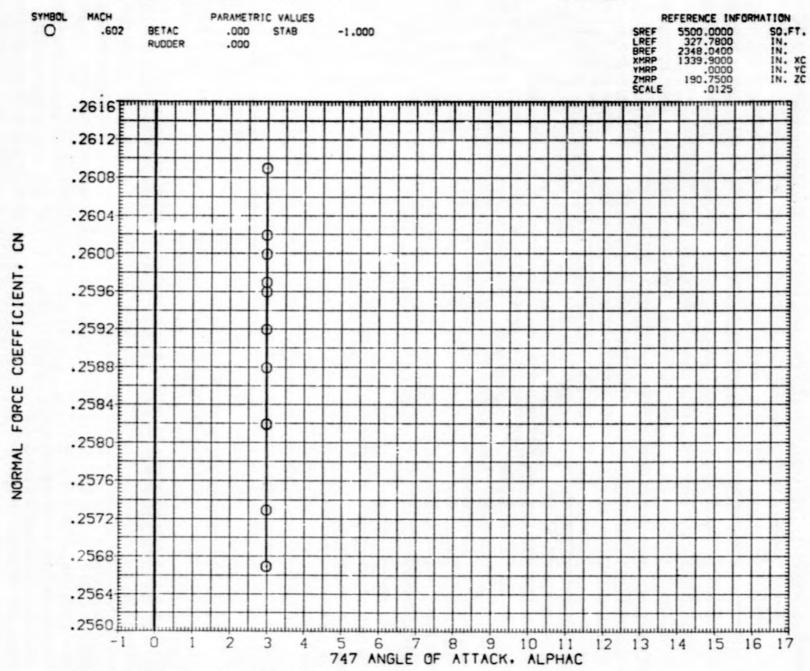


FIG.127 CARRIER ISOLATED, RFE021

FIG.127 CARRIER ISOLATED, RFE021

(RFE021)

SYMBO	.602	BETAC RUDDER	PARAMETRIC VALUES .000 STAB .000	-1.000			SREF LREF BREF XMRP YMRP ZMRP SCALE	5500.0000 327.7800 2348.0400 1339.9000 .0000 190.7500 .0125	RMATION SO.F IN. IN. IN.
	.03472 Fm								
	.03464								
	.03456								
	.03448								
	.03440						++		
	.03432								
	.03424								
	.03416		Ψ.						
	.03408			+++					
	.03400								
	.03392								
	.03384								
	.03376								
	.03368		1 6						
	.03360	0 1	2 3 4	5 6	7 8 9	10 11 12	13	14 15	16 17

PARAMETRIC VALUES

(RFE021)

REFERENCE INFORMATION

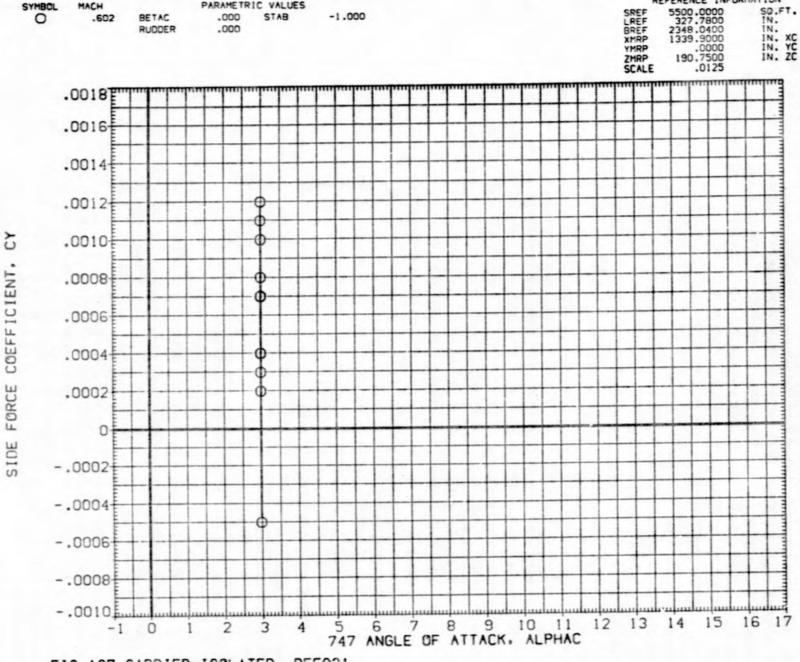
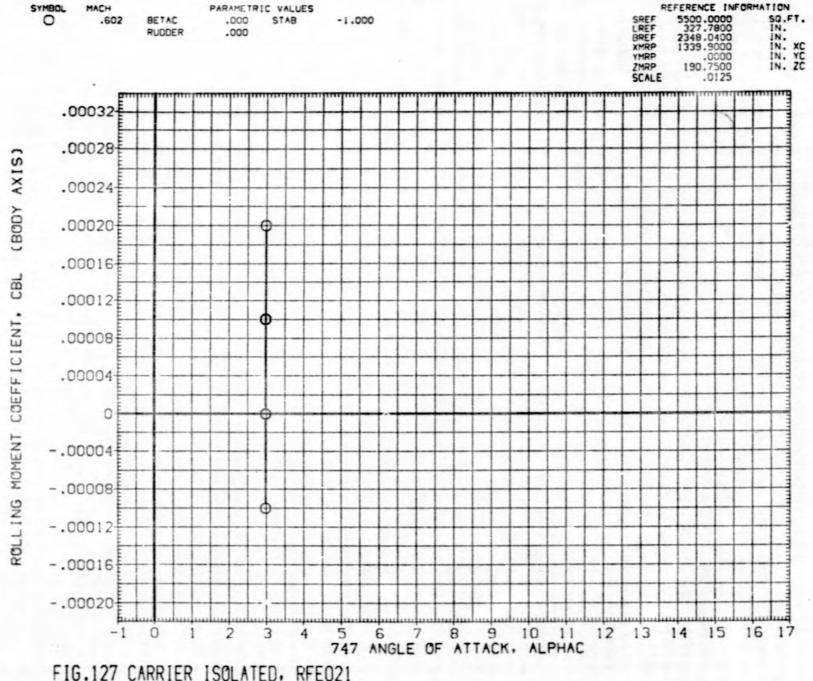


FIG.127 CARRIER ISOLATED, RFE021

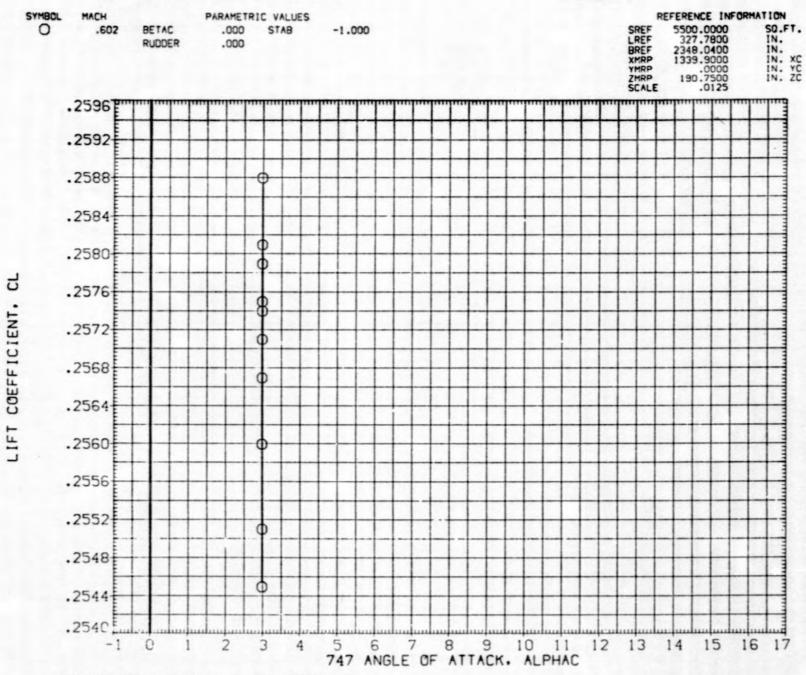
(RFE021)

	O	,602	BETAC RUDDER	.000 .000	STAB	-1.000									SREF LREF BREF XMRP YMRP ZMRP SCALE	550 32 234 133	0.000 7.780 8.040 9.900 .000 0.750	000000	SO.F
	0	0118					, m	The same	1	Time	"	T	1111111	""	7	1	1	T	i
	0	0119					+		H	H	F	H	-	H	\blacksquare	Ŧ	H	H	
133	0	0120			φ			-	H	H	F	H	+	-	-	+	H	H	
(BODY AXIS)	0	0121					+	-	-	H	F	H	+	-		+		\exists	
(800	0	0122					+	-		H	F	H		7		+		H	
C	0	0123					+			H	-	H	+	7	\blacksquare	+	H	H	\blacksquare
	0	0124					+	-	-	Ħ.	F		H	1	+	+	1	H	
CIEN	0	0125					+	-	-	H			\blacksquare	-	\blacksquare	-	+	H	
COEFFICIENT.	0	0126					+		-	H	-		\exists	-		+		H	
3		0127		+			+	-	-		H		H	7	\blacksquare	+		H	
JMEN	0	0128					-		-			-	+	-	H	-		H	
YAWING MOMENI	0	0129									H		\blacksquare	7	+	-		H	
N.	0	0130			•						H	-		1	\parallel	-		H	
	0	0131		-			+			-	H	+	\parallel	1				H	
	0	0132	0 1	2	3 4	5 6		, ,		9	10	11	1		13	14	15	16	17



PAGE 990 -30

(RFE021)



.000

PARAMETRIC VALUES

STAB

-1.000

SYMBOL MACH

.602

BETAC

0

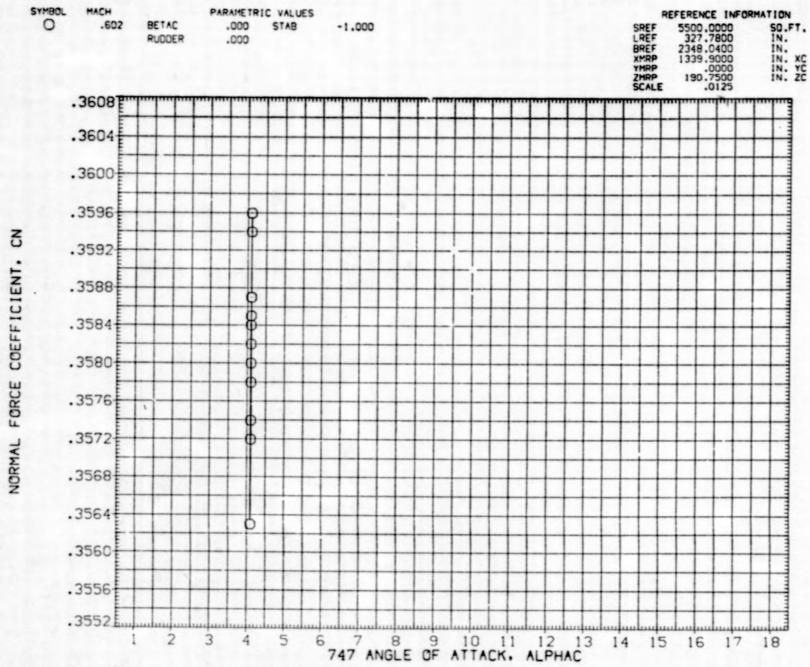
REFERENCE INFORMATION

5500.0000 327.7800 2348.0400 1339.9000 SO.FT. SREF LREF BREF XMRP YMRP ZMRP RUDDER .000 .0000 190.7500 .0125 SCALE .04824 .04816 0 .04808 .04800 .04792 Φ .04784 .04776 .04768 .04760 .04752 Φ .04744 .04736-0 .04728 .04720 5 6 7 8 9 9 13 11 12 13 14 15 16 17 0 3 747 ANGLE OF ATTACK. LPHAC

FIG.127 CARRIER ISOLATED, RFE021



(RFE022)



(RFE022)

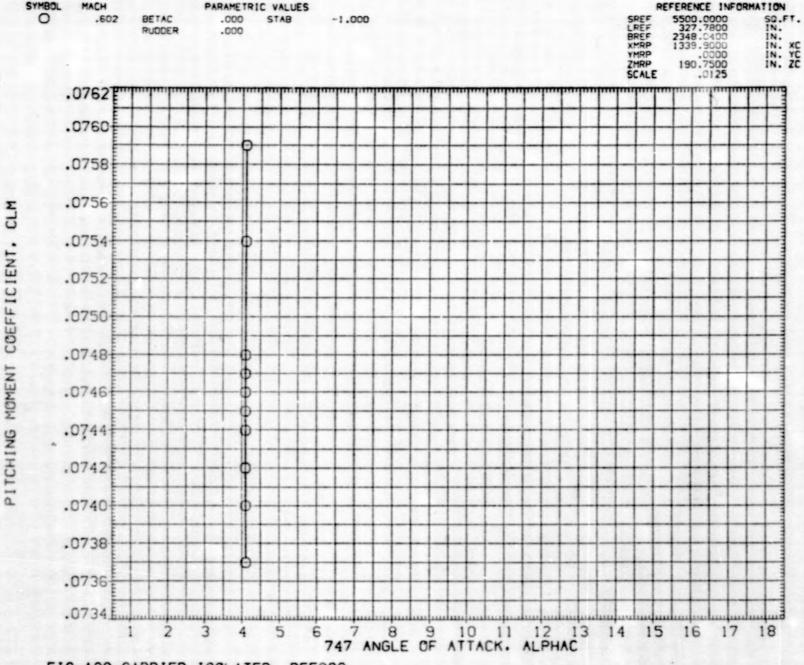


FIG. 128 CARRIER ISOLATED, RFE022

PAGE 994

0

(RFE022)

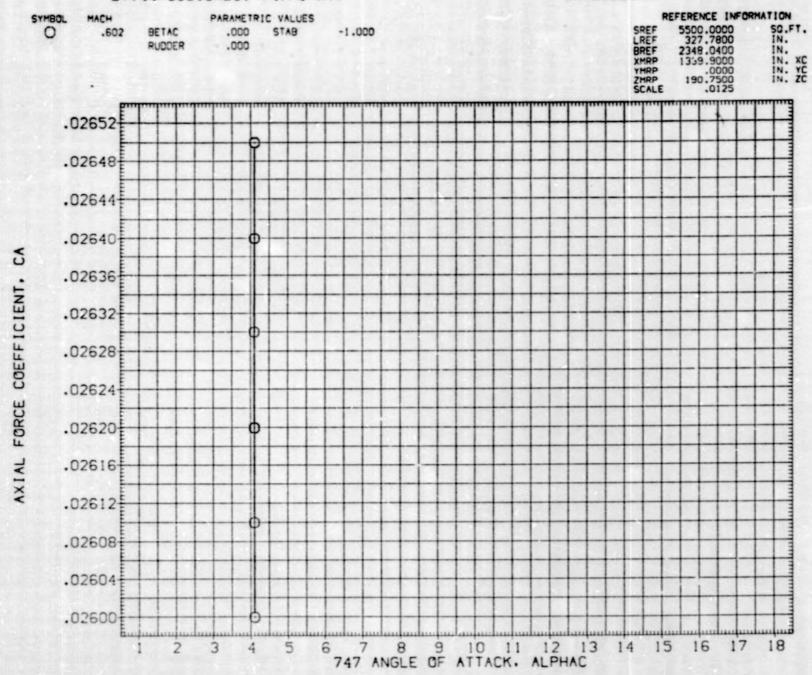


FIG.128 CARRIER ISOLATED, RFE022

3

5

-.00024 <u>Eugenhauhanhanhanhanhanhanhanhanhan</u>

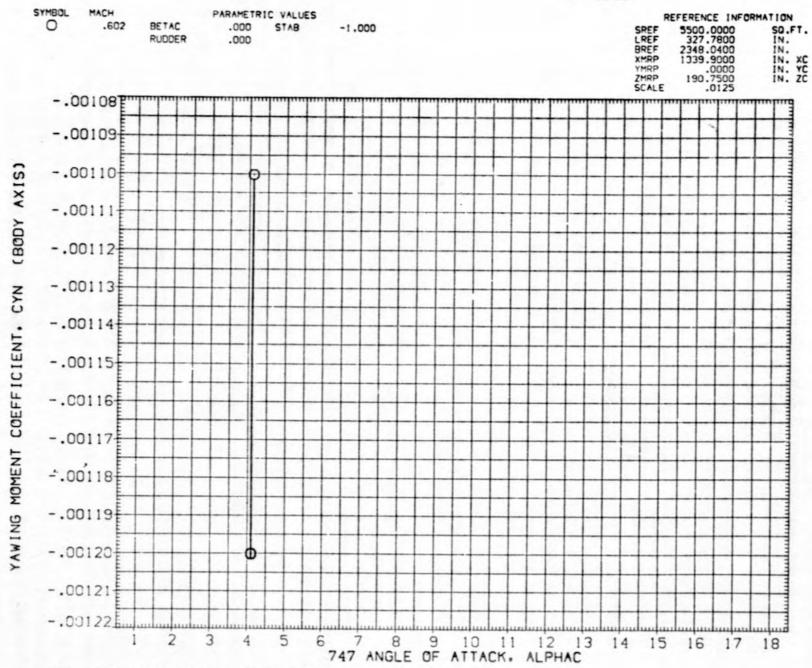
.00008

-.00008

-.00016

6 7 8 9 10 11 12 13 14 15 16 17 18 747 ANGLE OF ATTACK, ALPHAC

(RFE022)



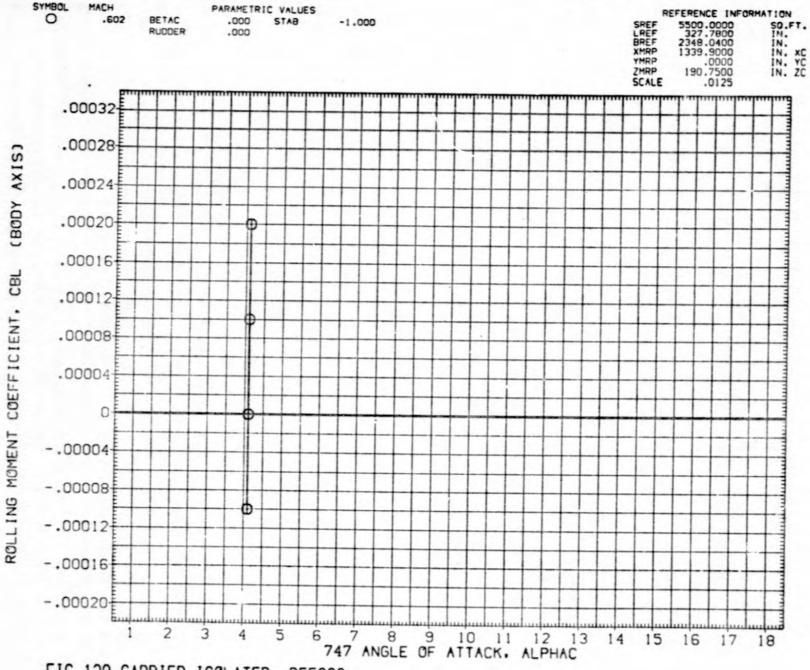
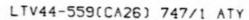
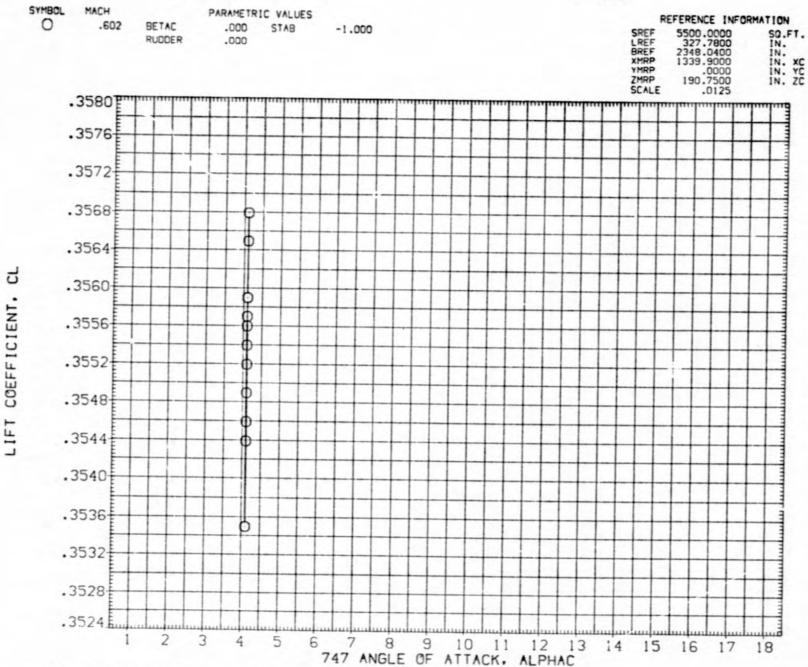


FIG.128 CARRIER ISOLATED, RFE022



(RFE022)



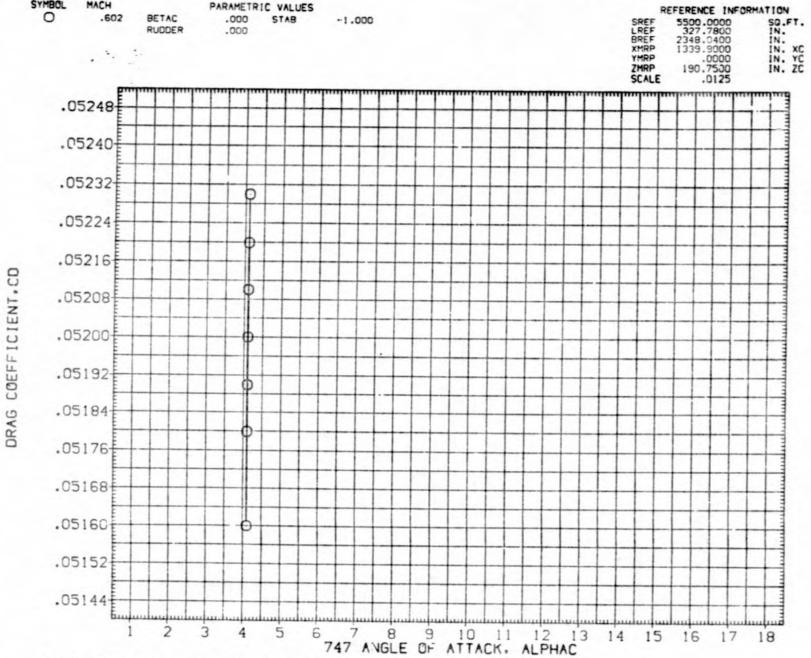


FIG.128 CARRIER ISOLATED, RFE022



LTV44-559(CA26) 747/1 ATY

SYMBOL	MACH		PARAMETR	IC VALUES	
0	.599	BETAC	-5.000	STAB	5.000
		RUDDER	.000		

(RFE023)

O	.599	BETAC RUDDER	-5.000 .000	STAB	5.000					E	REF REF MRP MRP MRP CALE	5500.0 327.7 2348.0 1339.9 190.7	000 800 400 000 000 500	SO IN IN IN IN
	.3424										H	1		
	.3420													
	.3416													
	.3412						-		+		\forall	\pm		
	.3408		+i+									+		
	.3404							×						
	.3400					-					Φ	+	+	\perp
	.3396													
	.3392										H	++		-
	.3388			0		+	H					++		
	.3384									-				+
	.3380			•							H			
	.3376													
	.3372						H							

FIG.129 CARRIER ISOLATED, RFE023

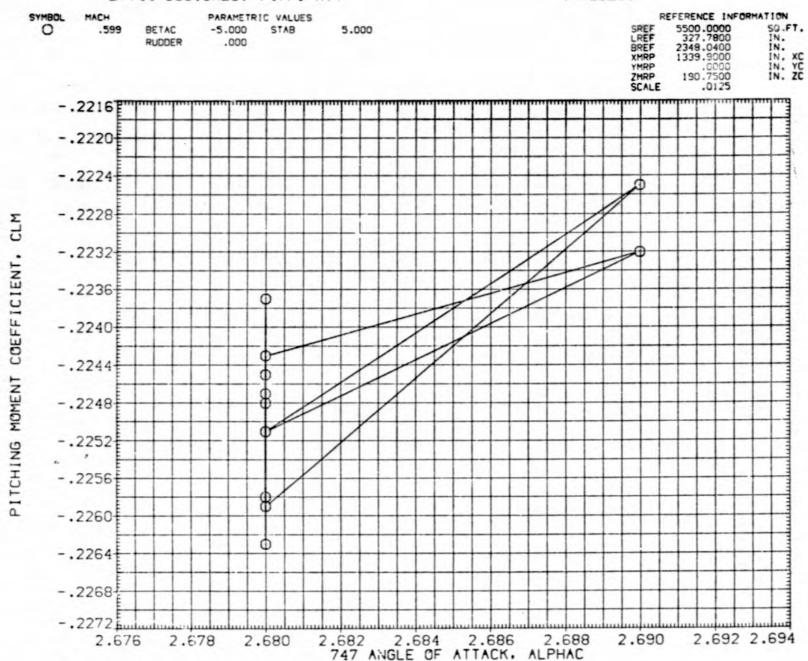


FIG.129 CARRIER ISOLATED, RFE023

LTV44-559(CA26) 747/1 ATY (RFE023) REFERENCE INFORMATION 5500.0000 327.7800 2348.0400 1339.9000 .0000 190.7500 .0125 SO.FT. IN. IN. IN. XC IN. YC IN. ZC BETAC -5.000 STAB 5.000 SREF LREF BREF XMRP RUDDER .000 YMRP ZMRP SCALE .03665-.03660 .03655 .03650 .03645 COEFFICIENT. .03640 .03635 .03630 FORCE .03625 AXIAL .03620 .03615 .03610 .03605 .03600

2.682 2.684 2.686 2.688 747 ANGLE OF ATTACK, ALPHAC

2.688

2.690

FIG.129 CARRIER ISOLATED, RFE023

2.680

2.678

2.676

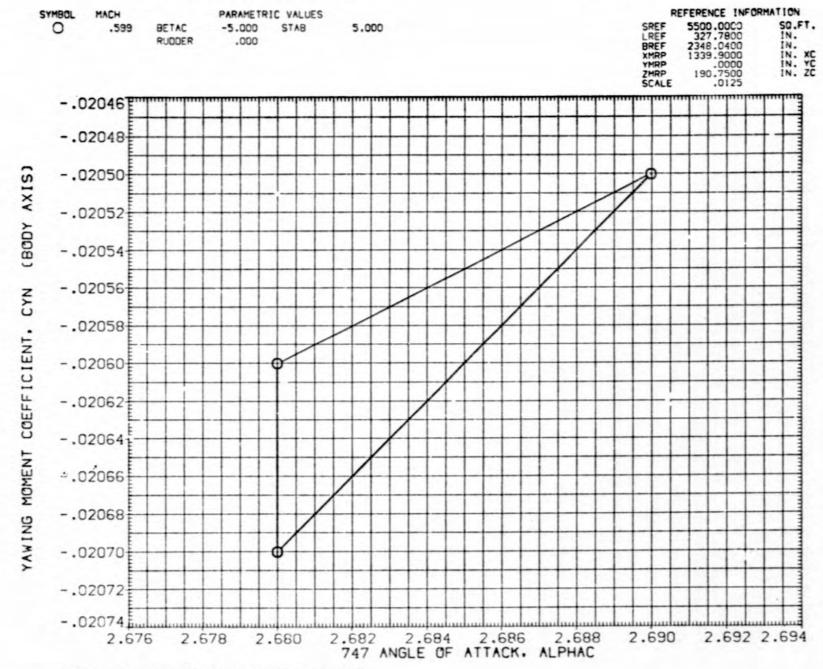
0

2.692 2.694



FIG.129 CARRIER ISOLATED, RFE023

(RFE023)



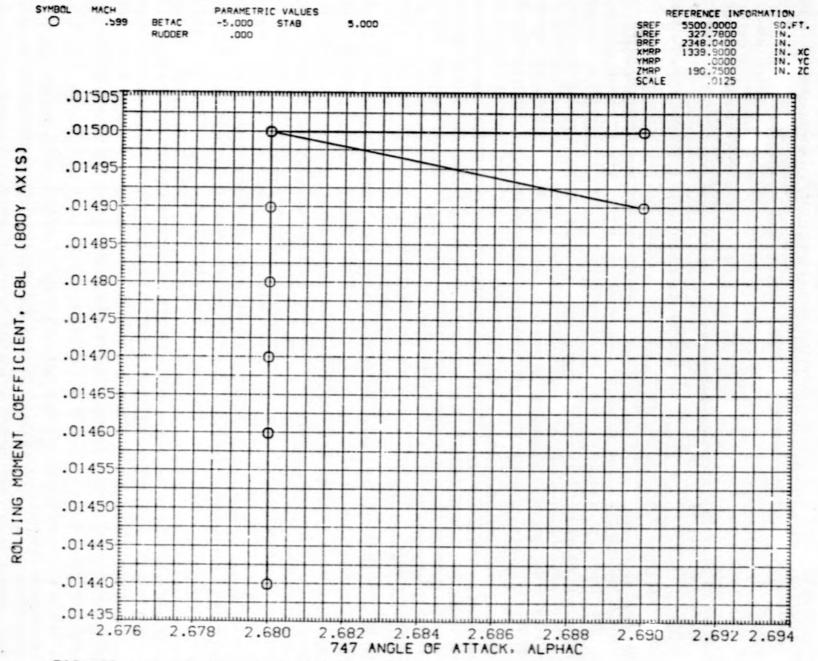
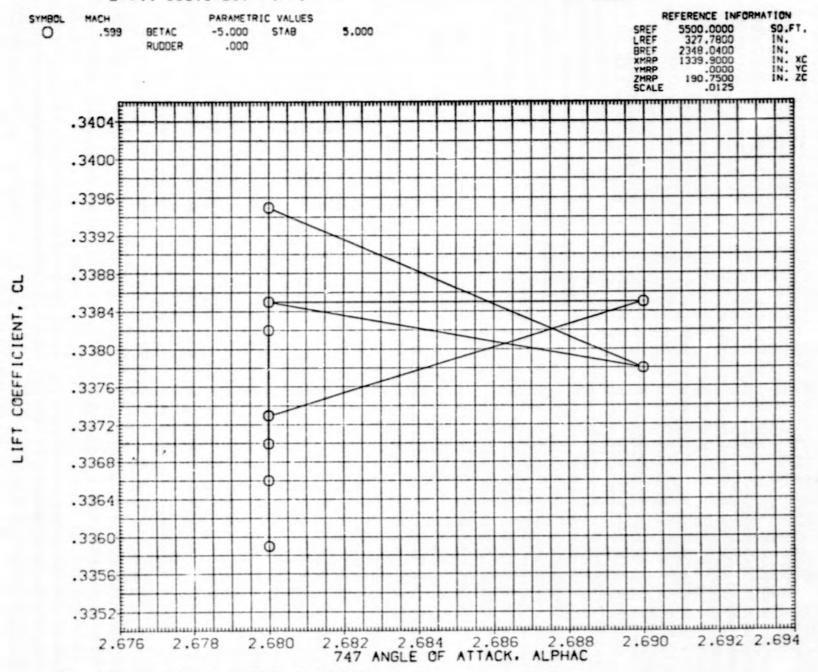


FIG.129 CARRIER ISOLATED, RFE023

(RFE023)





(RFE023)

REFERENCE INFORMATION

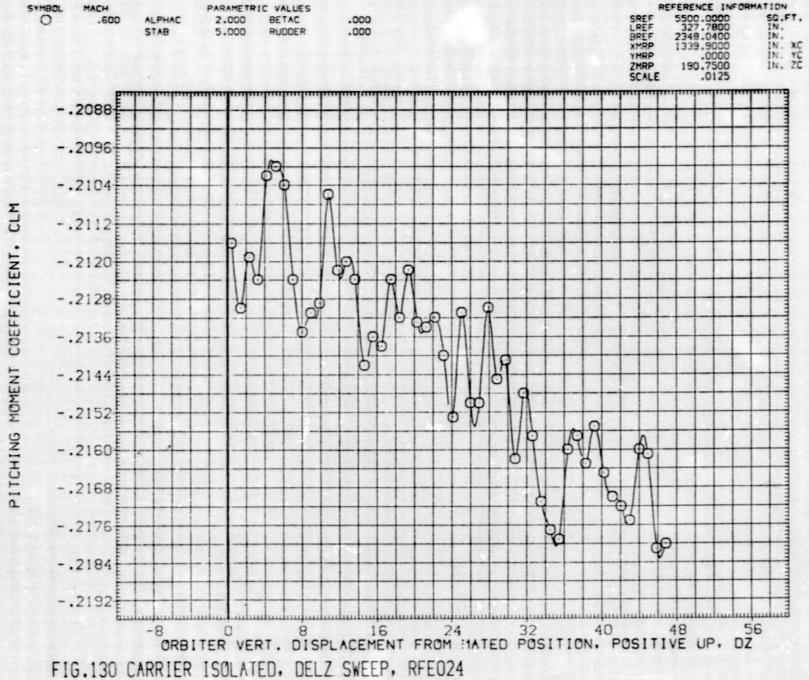
.599	BETAC RUDDER	-5.000	STAB	5.000	,							SREF LREF BREF XMRP YMRP ZMRP SCALE	5500 321 2341 1331	0.0000 7.7800 8.0400 9.9000 .0000 0.7500	
.05255					77	T	TT	T	T	-			-	-	
.05250		+++	ф —		\parallel	H	+		\exists	-	H	\Box			-
.05245					#	H	+	+		-			-		-
.05240					+	H		H	+	-	H				-
.05235					+			++	\blacksquare	-					
.05230					+-			H	\blacksquare	+	-	H			
.05225															
.05220			φ 		+					-					
.05215					-				1	_					
.05210			•		++			H	H	+		-			
.05205							+			-					
.05200			ф <u> </u>								+	•			
.05195															
.05190			b												

FIG.129 CARRIER ISOLATED, RFE023



(RFE024)

O	MACH .600	ALPHAC STAB	2.000 5.000	BETAC RUDDER	.000				SREF LREF BREF XMRP YMRP ZMRP SCALE	5500.0000 327.7800 2348.0400 1339.9000 .0000 190.7500 .0125	S
1 - 1	.3296								TTTT		7
	.3288		+					+			+
	.3280		+								+
	.3272		+				9				+
	.3264		\mp				$\parallel \parallel \parallel \parallel$	##			+
	.3256						1911	##			+
	3248		+	9	G		1 1 1	7	8		+
	3240			8		0	0	9	e H		+
	3232		R		MAR			9 1111			+
	3224			P	1	5			4		+
	3216				98	9	- 4	96			+
	3208										F
	3200	-			9 9						F
	3192										+
	3184 []	-8 -8	TED VED	8	16	24	32	40	acı Tı	48 56 VE UP, DZ	1





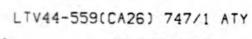
(RFE024)

O	MACH .600	ALPHAC STAB	2.000 5.000	RIC VALUES BETAC RUDDER	.000							SREF LREF BREF XMRP YMRP ZMRP SCALE	327. 2348. 1339.	7800 0400	ORMAT
	.0398							""	""	1""	"				"""
	.0396	-					-	+		H	+	+	+	H	H
	.0394					#	\dashv	+		H	+		#	+	+
	.0392					#	-	-			+		#	\Box	\parallel
	.0390					+	+			H		1 / N / I	6	+	
	.0388								9	RP	18	9	#	H	\exists
	.0386		+					A	8	8	8			\blacksquare	
	.0384		\mp		RR	9/	W	20	-		F			H	\blacksquare
	.0382			18	2000						-			\mathbf{H}	
,	.0380		18	199 9		8					-				H
	.0378		+ 41	8					-					H	H
	.0376		+++	500					+						H
	.0374														H
	.0372														
	.0370	باسلسليا													
FI	G 130 C			RT. DISPL ED, DELZ			MATE	D P	SIT	ION	40 • P	OSITI	48 VE U	P. D	56 Z

24 ORBITER VERT. DISPLACEMENT FROM MATED POSITION, POSITIVE UP, DZ

FIG. 130 CARRIER ISOLATED, DELZ SWEEP, RFE024

.0012



(RFE024)

YMBOL MACH O .600	ALPHAC STAB	2.000 5.000	RIC VALUES BETAC RUDDER	.000					SREF LREF BREF XMRP YMRP ZMRP SCALE	REFERENCE INF 5500.0000 327.7800 2348.0400 1339.9000 .0000 190.7500	SQ. IN. IN. IN. IN.
00076											
00080					++		++	++	+		+
00084							+				#
00088				A A					A		
00092		+H		-11111	1	1		$+\mathbb{I}$	171	P	
00096									##		
00100			10	m 9 6	20 000	b 0	ari a		\$ 9		
00104						-1-11	-111-	11/			
00108											
00112			\$ 1911			- 000		00			
00116		$+ \parallel \parallel$									
00120			+++								
00124											
00128											
00:32[بالبد البدا			لسلسلسا						

FIG. 130 CARRIER ISOLATED, DELZ SWEEP, RFE024

PAGE 1014

FIG.130 CARRIER ISOLATED, DELZ SWEEP, RFE024

8

16

24

ORBITER VERT. DISPLACEMENT FROM MATED POSITION. POSITIVE UP. DZ

32

.3160 hughan

48

16

32

ORBITER VERT. DISPLACEMENT FROM MATED POSITION, POSITIVE UP, DZ FIG. 130 CARRIER ISOLATED, DELZ SWEEP, RFE024

.0522

.0520 E.

PAGE 1016

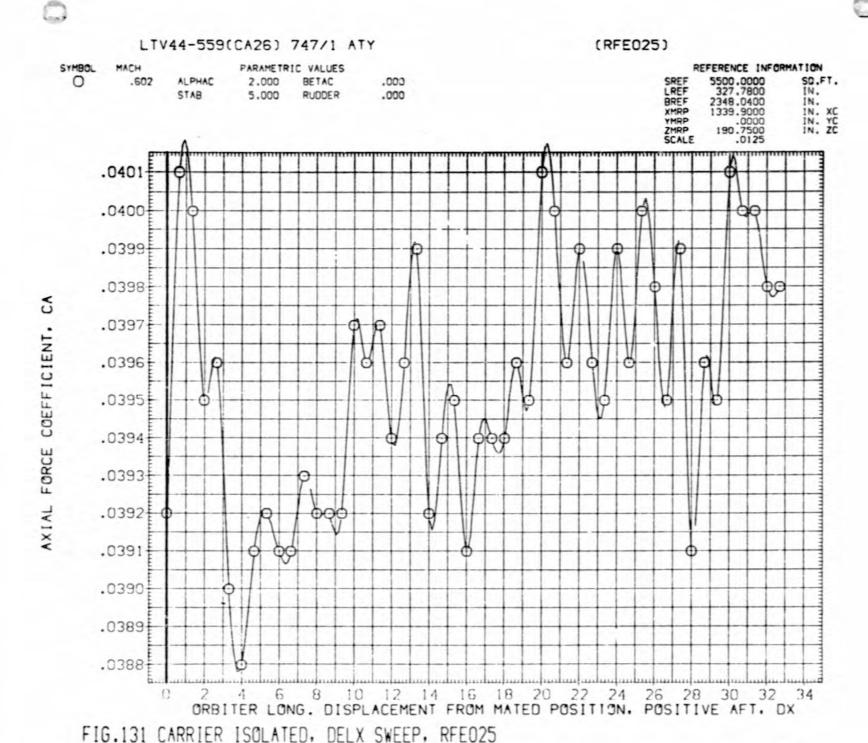


(RFE025)

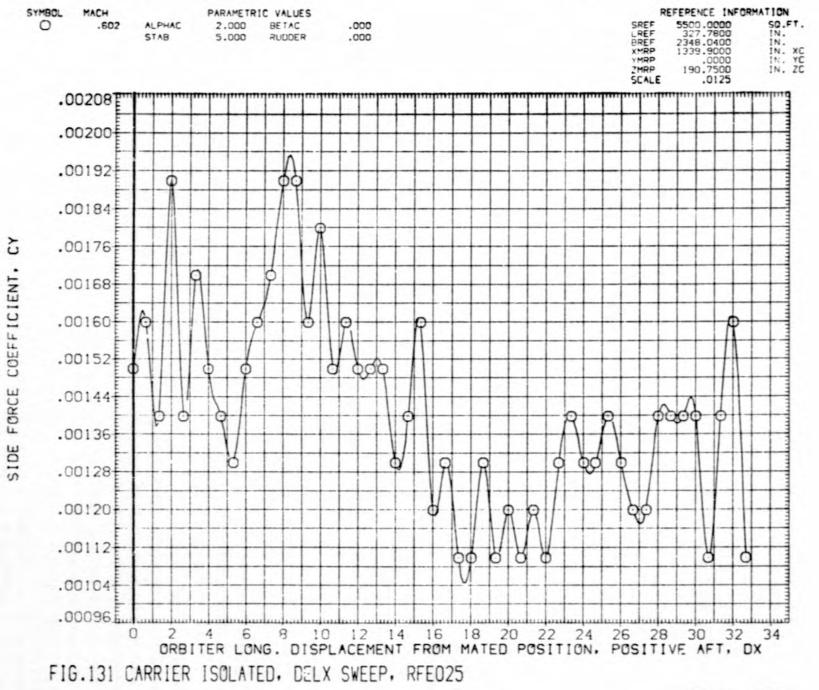
FORMATII SC IN IN IN	7800	5500 327 2348 1339	SREF LREF BREF XMRP YMRP ZMRP SCALE												000		0	VAL ETA UDD		000 000	2.		PHAC		MACH .602	O
7	7	TIT	7777	mm	"	""	""	""	""	7"	"	"	""	1	7	""	1	"	""		1""	7	"""	T	3320	
\dashv	\blacksquare	++		\mathbb{H}	+	-	-	-		F	F	-		-	F	7	F	F	-	-		+	+	-	3312	
\exists	\mp	H	#	\exists	•	+	7	-		-	1	7		F	F	+	F	F	+	-		F		-	3304	
	\mp	H			1	-		9		F	+	-		-	-		F	F	+	4	F	F	+	-	3296	
Q	+	H		H	\parallel	+	7	-	o.d	F	Ŧ	7		F	F	+	F	F	+	-	H	F	+	-	3288	
1	\exists	H	#	H	\parallel	H	-4	-		0	-		9	-	F	+	-	F	+	-		-		-	3280	
\mathbf{H}	R	H	9	\blacksquare			-	7		1	YE	50	1	F	F	+	F	F	,	+		-			3272	
H	4	3	11)	1			7	7	-	D -	1	+	H		F	-		F	0	-		-			3264	
5	1	H	18	9	10	V	-	7	-	-	-	+		-	E	-	F	8	F	-				-	3256	
\Box	H	H	H	Y	Ŧ	+	-	7	-		+	+	5	19	1	19	H	1	R	1		80	W	-	3248	
+	\Box	H	8	H	F	+	+	-	-		F	-		d	4	-		1	-	-			y	9	3240	
	H	H	-		+	+	+	+	-	_	-	-	-			-		-	F	5		-	-	8	3232	
	H		+	H	+	-	+	+	-		F	-	-		-	+		F	-	-		-			3224	
\blacksquare	H	H	-	\Box	F	+	+	-	+		+	+	-				0	-	-	+	9		-		3216	
															1										3208	
2	3	30 E A	28	26 P0	24 0N	710	22	PC	20	8 A T	4 1	RO	r F	ΕŃ	ÉM	LAC	ISF	0	NG.	LO	ER	ITE	ORB	,	3208	



FIG.131 CARRIER ISOLATED, DELX SWEEP, RFE025



(RFE025)



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LTV44-559(CA26) 747/1 ATY (RFE025) REFERENCE INFORMATION 0 SREF LREF BREF XMRP YMRP ZMRP SCALE 5500.0000 327.7800 2348.0400 1339.9000 SQ.FT. ALPHAC .000 STAB 5.000 RUDDER .000 .0000 190.7500 .0125 -.00068T -.00072 (BODY AXIS) -.00076 -.00080 ФФ -.00084 -.00088 CYN 6 doodo -.00092 YAWING MOMENT COEFFICIENT. -.00096 8 Specific Property of the Control of офофф 600 фф фΘ -.00104 -.00108 -.00112 -.00116 -.00120 -.00124 E... 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 CRBITER LONG. DISPLACEMENT FROM MATED POSITION, POSITIVE AFT. DX

FIG.131 CARRIER ISOLATED, DELX SWEEP, RFE025

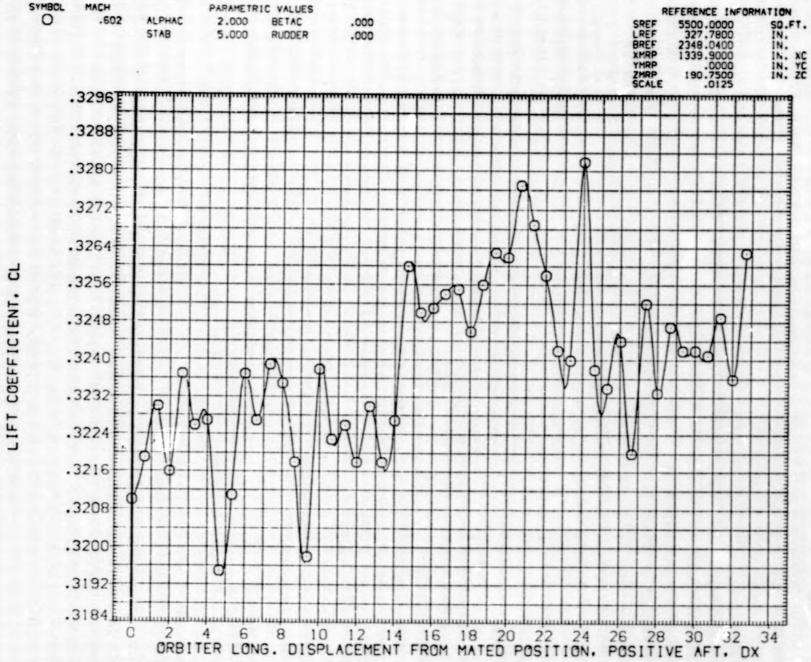
(RFE025)



PAGE 1022



(RFE025)



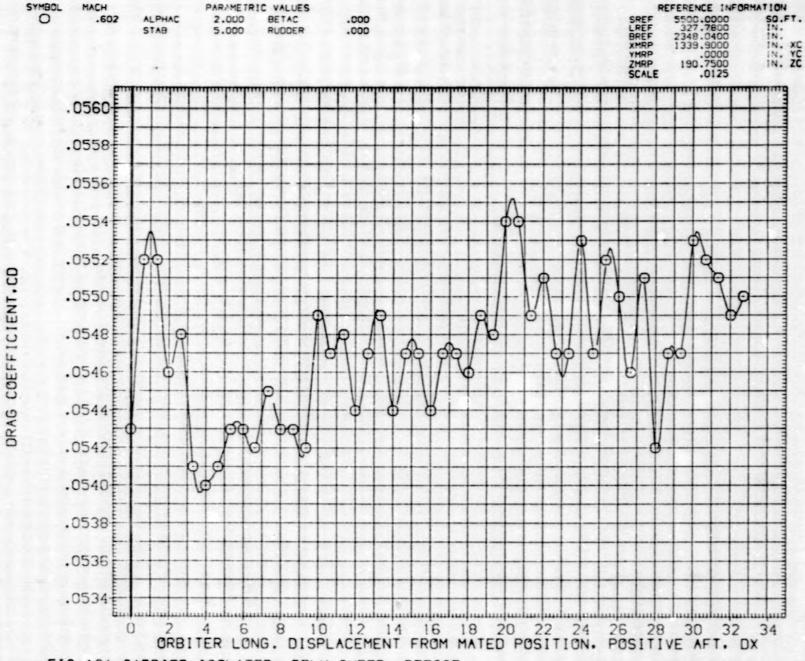


FIG.131 CARRIER ISOLATED, DELX SWEEP, RFE025

.432 .434 .436 .438 747 ANGLE OF ATTACK, ALPHAC

FIG.132 CARRIER ISOLATED, RFE026

.428

.430

.432

.0455

.426

.444

.442

.434 .436

747 ANGLE OF ATTACK. ALPHAC

FIG.132 CARRIER ISOLATED, RFE026

.428

.1208 Entertuding a landard and a landard an

.432

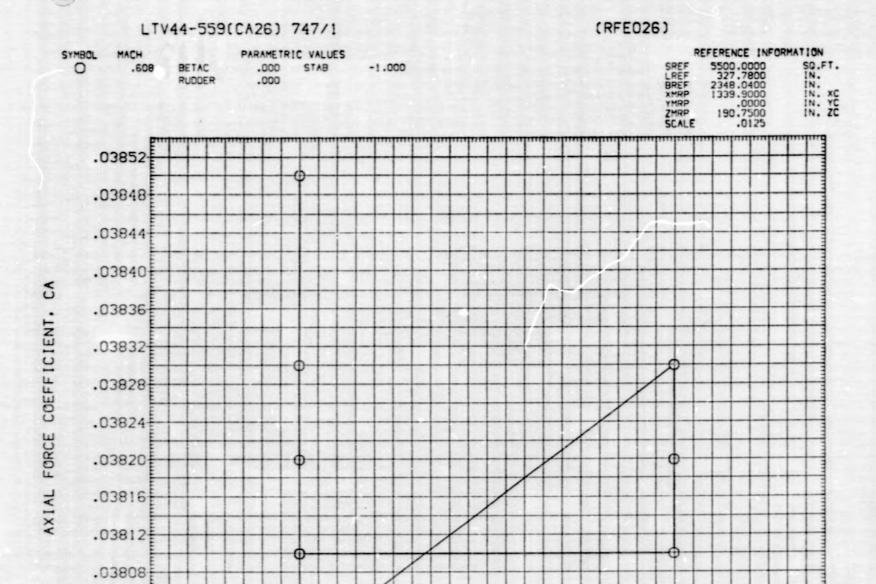
.430

.1212

.426

.442 .444

.440



.432

.430

.434

.436

747 ANGLE OF ATTACK. ALPHAC

.438

.440

FIG.132 CARRIER ISOLATED, RFE026

.428

.03804

.03800

.426

.444

.434 .436

747 ANGLE OF ATTACK, ALPHAC

.432

FIG.132 CARRIER ISOLATED, RFE026

.430

.428

.0040

.0038

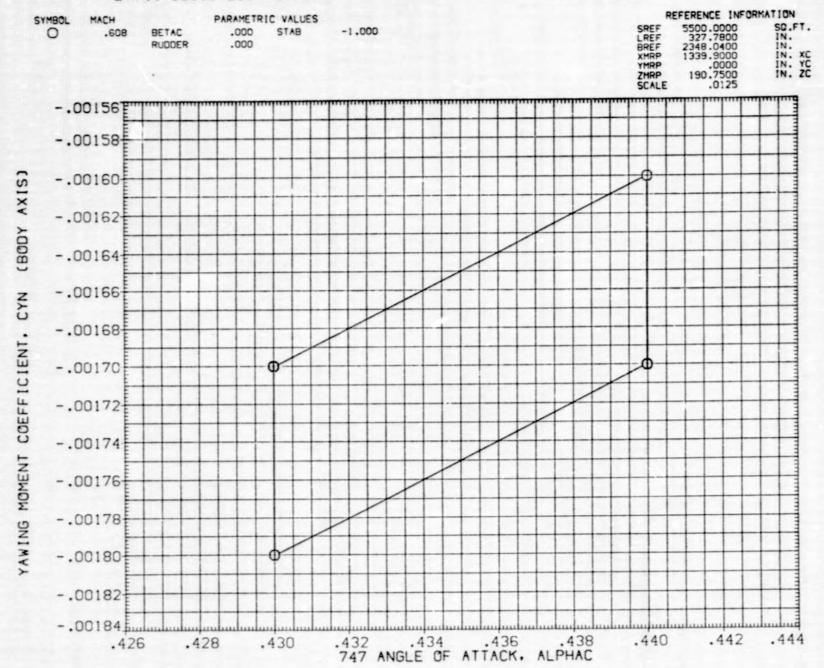
.426

.444

.442



(RFE026)



.432 .434 .436 .438

747 ANGLE OF ATTACK, ALPHAC

FIG.132 CARRIER ISOLATED, RFE026

.428

.430

-.00044

-.00048

.426

.442

SYMBOL	.608	BETAC RUDDER	.000 STAB	-1.000							SREF LREF BREF XMRP YMRP ZMRP SCALE	5500 327 2348	0.0000 .7800 .0400 .9000 .0000 .7500	SQ.F IN. IN. IN. IN. IN.
	.0520								""					
	.0515					-	++	-	-		+	-	+	
	.0510					\blacksquare			+		1	+	\blacksquare	
	.0505					+	+		H			\blacksquare	+	
	.0500					-			+		-	\blacksquare	#	
	.0495					-	+		+		1	\blacksquare		
	.0490						-	-	1			+	-	
	.0485					\Box		1	-		1		+	
	.0480					1			/			\blacksquare		
	.0475					+		1					+	
	.0470					1	1	+	-					
	.0465								-					
	.0460					-		\blacksquare	+					
	.0455													
	.0450			.432 747 A	.43	34	.43	6	.4	38	.440		.442	.444

FIG.132 CARRIER ISOLATED, RFE026

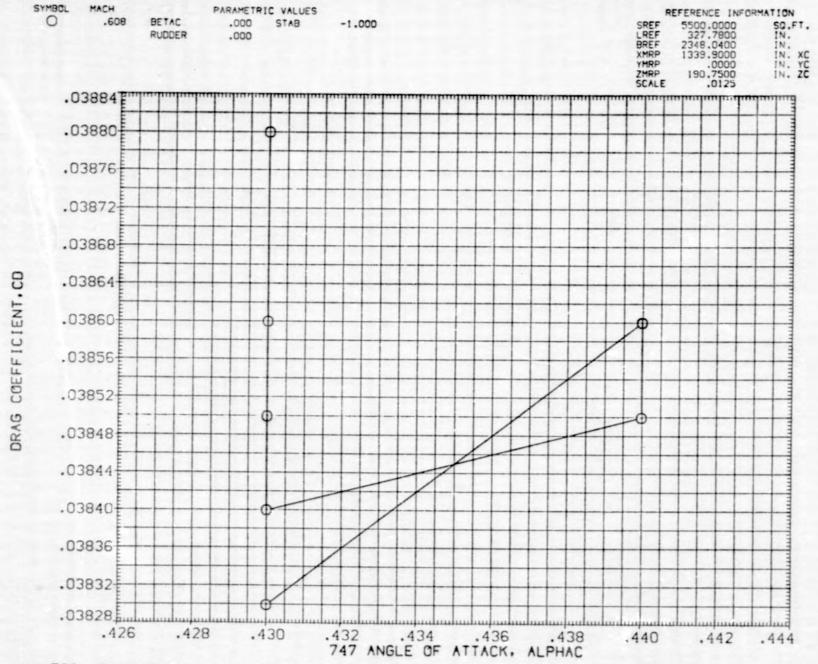


FIG.132 CARRIER ISOLATED, RFE026

COEFFICIENT. .0890 .0888 NORMAL FORCE .0886 .0884-.0882 .0880 .0878 .0876 .212 .214 .216 .218 747 ANGLE OF ATTACK, ALPHAC .222 .208 .210 .220 .206

FIG.133 CARRIER ISOLATED, RFE027

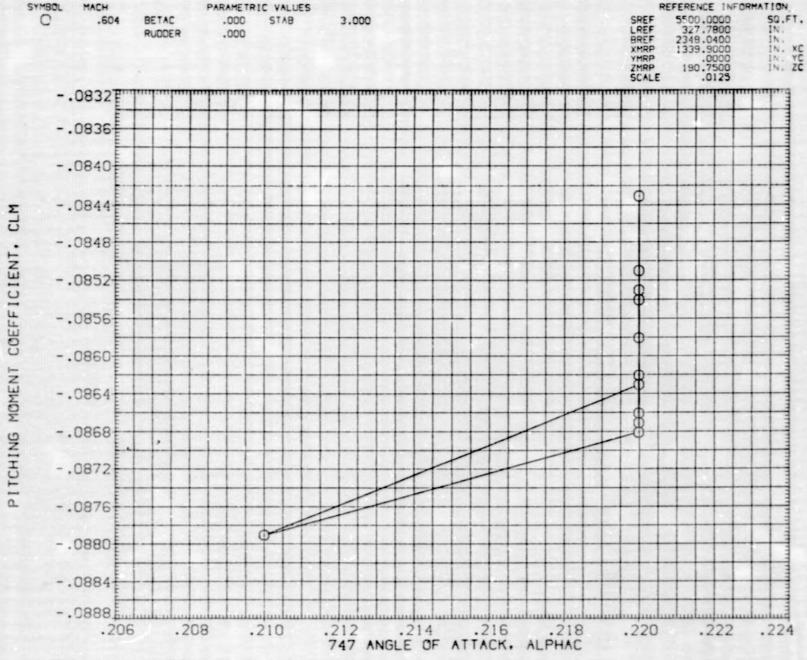


FIG.133 CARRIER ISOLATED, RFE027

(RFE027)

REFERENCE INFORMATION

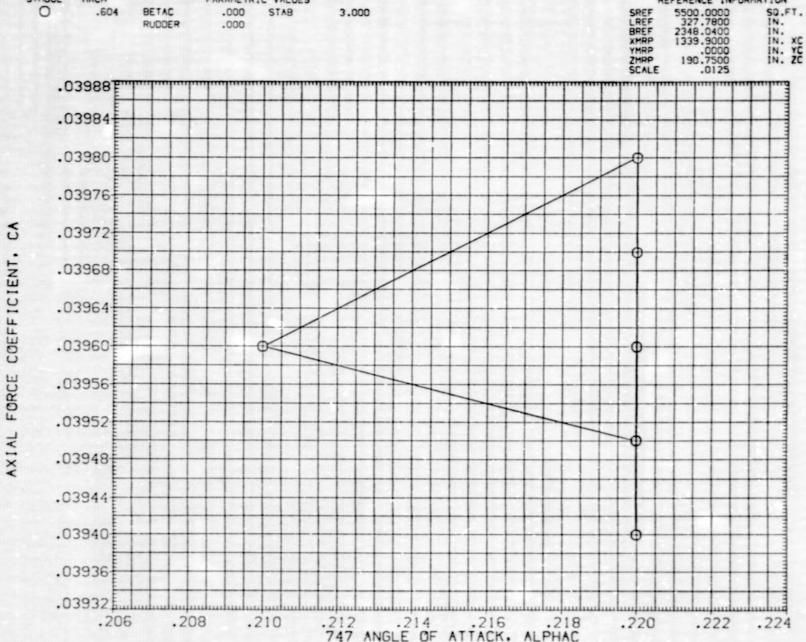


FIG.133 CARRIER ISOLATED, RFE027

(RFE027)

REFERENCE INFORMATION

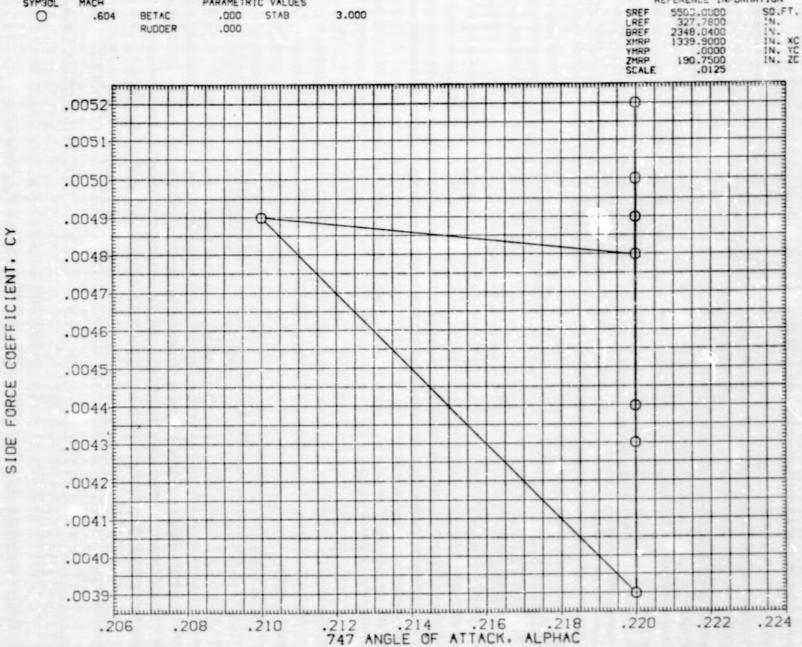


FIG.133 CARRIER ISOLATED, RFE027

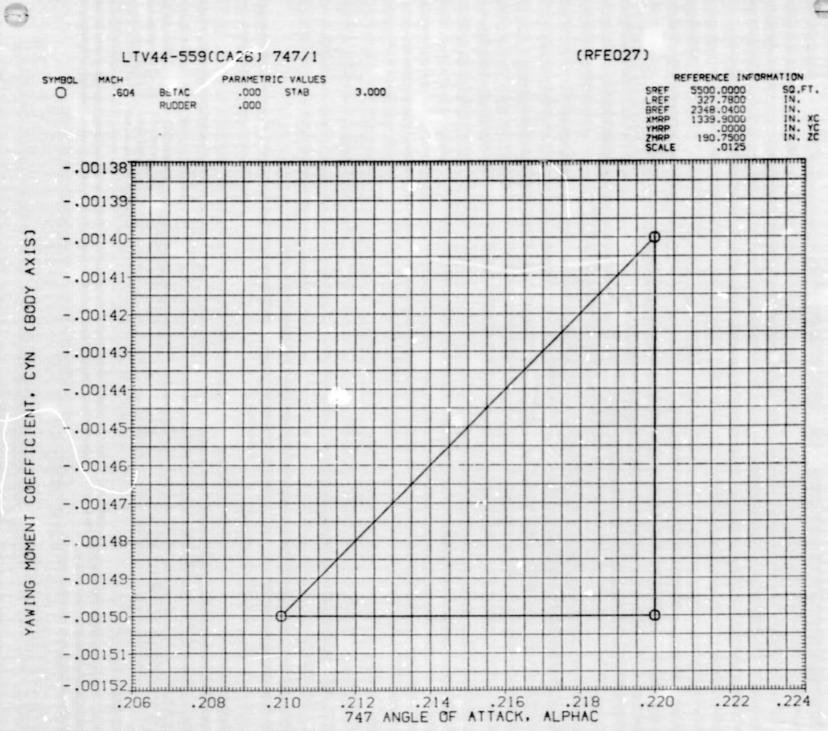


FIG.133 CARRIER ISOLATED, RFE027

.214

.216

747 ANGLE OF ATTACK, ALPHAC

.218

.220

FIG.133 CARRIER ISOLATED, RFE027

.208

.210

.212

.224

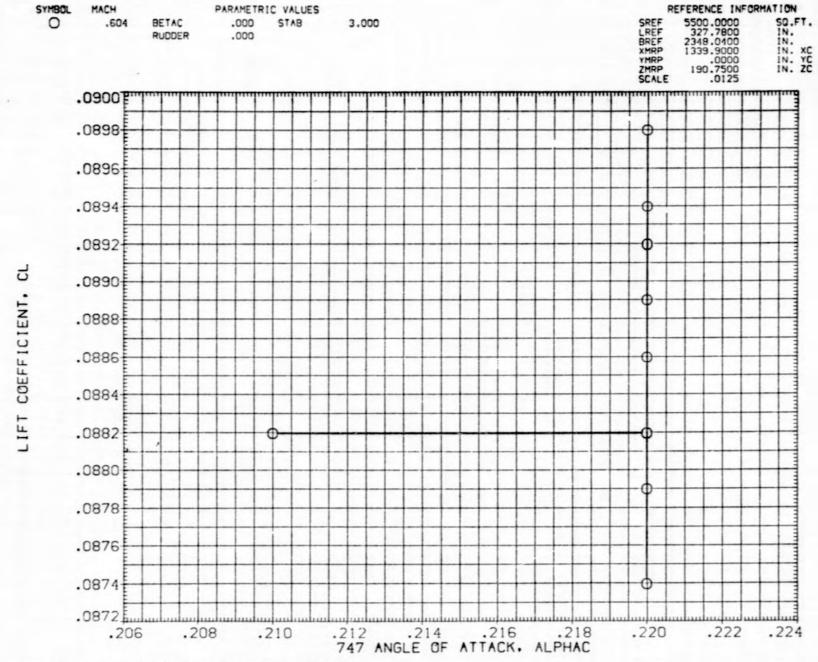


FIG.133 CARRIER ISOLATED, RFE027

FIG.133 CARRIER ISOLATED, RFE027

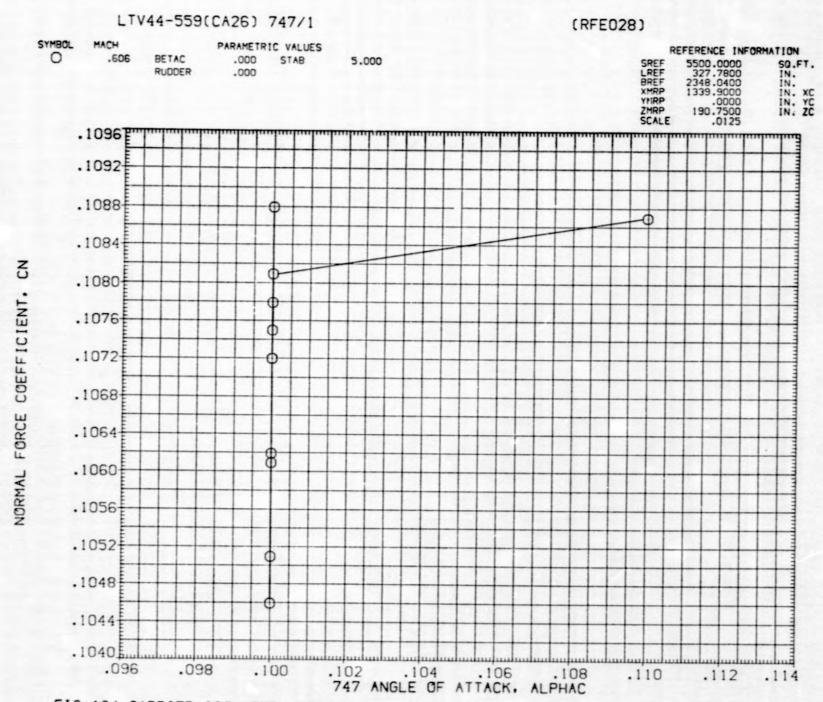


FIG.134 CARRIER ISOLATED, RFE028

.104 .106

747 ANGLE OF ATTACK, ALPHAC

.108

.110

.102

.100

FIG. 134 CARRIER ISOLATED, RFE028

.096

.114

LTV44-559(CA26) 747/1

SYMBOL PARAMETRIC VALUES 0 .606 .000 STAB RUDDER .000

(RFE028)

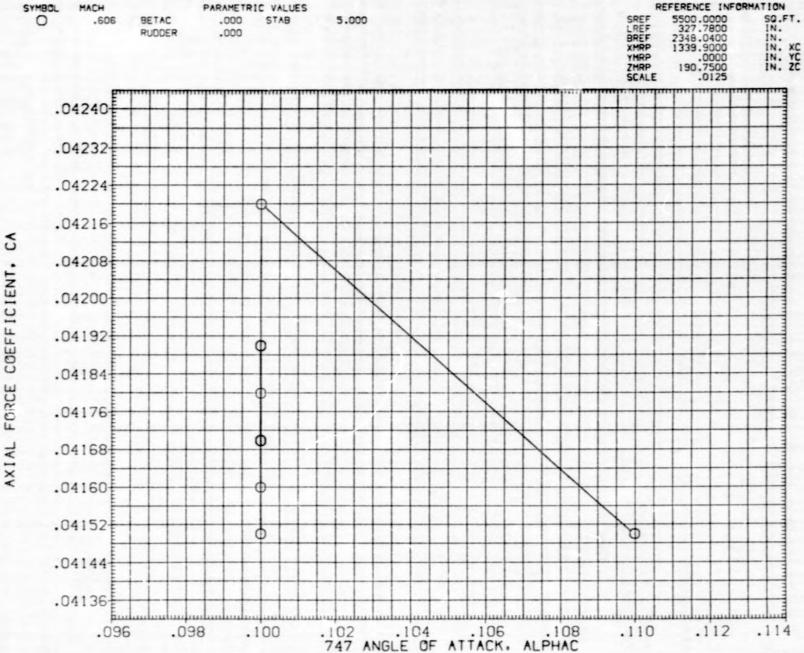


FIG.134 CARRIER ISOLATED, RFE028

.102 .104 .106 .108 747 ANGLE OF ATTACK, ALPHAC

FIG.134 CARRIER ISOLATED, RFE028

.098

.100

.096

.110

(RFE028) LTV44-559(CA26) 747/1 SYMBOL REFERENCE INFORMATION PARAMETRIC VALUES 5500.0000 327.7800 2348.0400 1339.9000 .0000 190.7500 .0125 SQ.FT. IN. IN. IN. XC IN. YC IN. ZC SREF LREF BREF XMRP YMRP ZMRP SCALE STAB 5.000 BETAC RUDDER -.00128T -.00129 (BODY AXIS) -.00130 -.00131 -.00132 YAWING MOMENT COEFFICIENT. CYN -.00133 -.00134 -.00135 -.00136 -.00137 -.00138 -.00139 -.00140 -.00141 -.00142 .096 .098 .100 .102 .104 .106 .108 747 ANGLE OF ATTACK, ALPHAC .110 .112 .114

FIG.134 CARRIER ISOLATED, RFE028

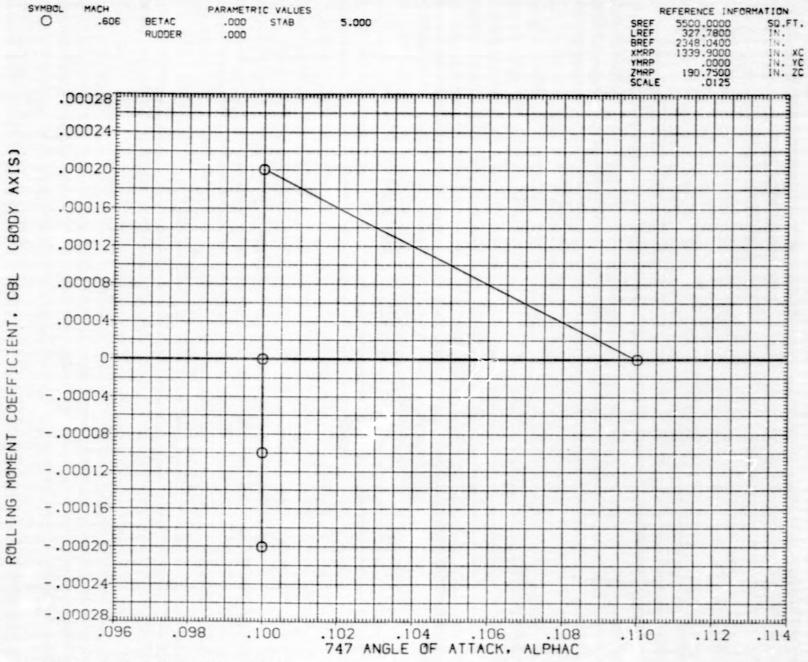
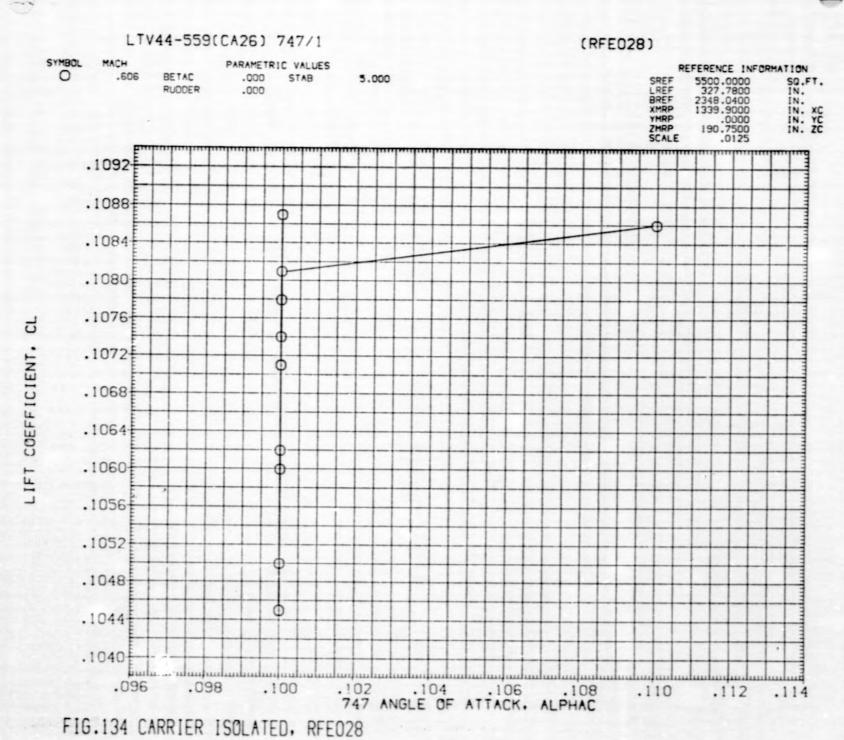


FIG.134 CARRIER ISOLATED, RFE028



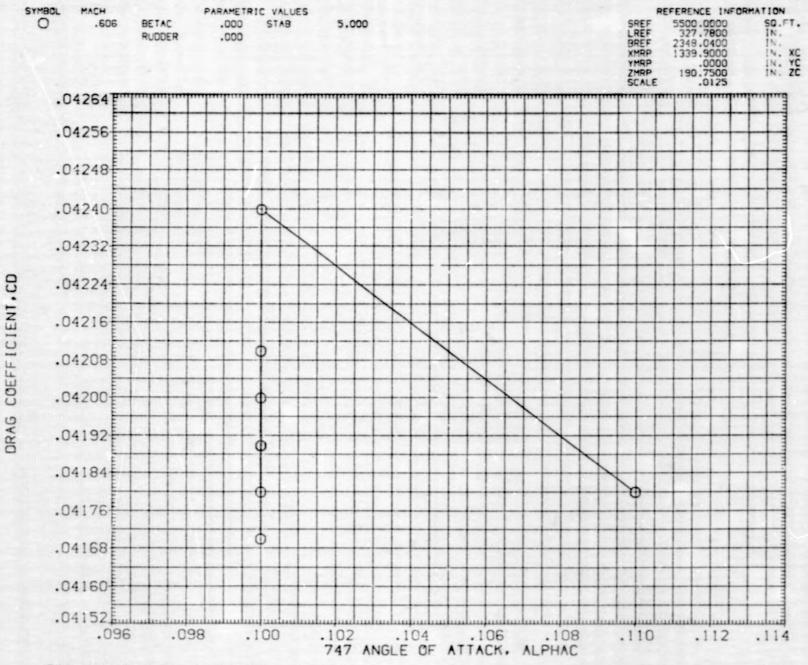


FIG. 134 CARRIER ISOLATED, RFE028

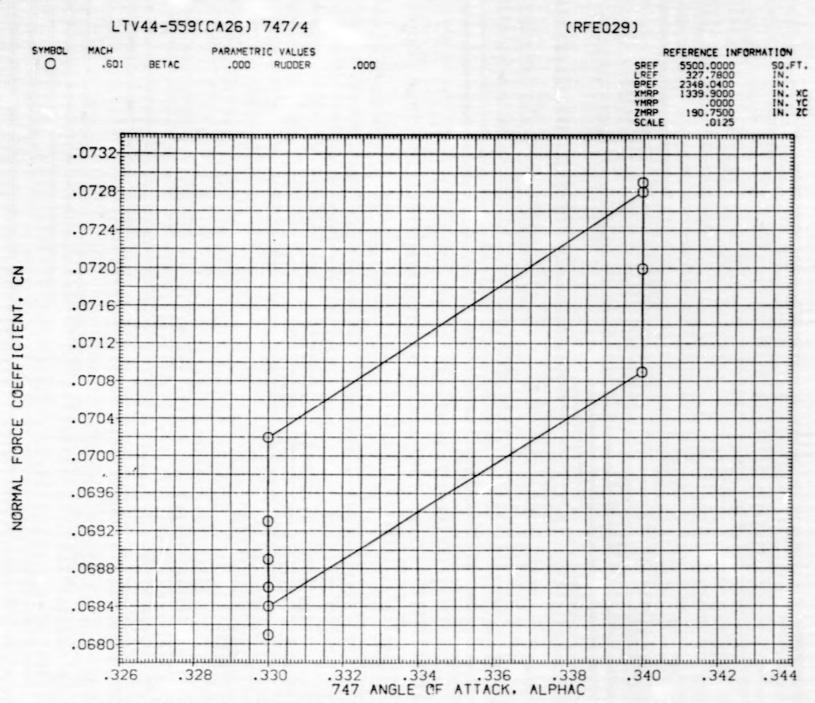


FIG.135 CARRIER ISOLATED, RFE029

.0245 Julian Jul

.332 .334 .336 .338 747 ANGLE OF ATTACK, ALPHAC

FIG.135 CARRIER ISOLATED, RFE029

.330

.328

.0250

.326

.342 .344

.340

(RFE029) LTV44-559(CA26) 747/4 SYMBOL REFERENCE INFORMATION PARAMETRIC VALUES SREF LREF BREF XMRP YMRP ZMRP SCALE SO.FT. IN. IN. XC IN. YC IN. ZC .000 .03516 .03512 .03508 .03504 .03500 COEFFICIENT, .03496 .03492 .03488 FORCE .03484 AXIAL .03480 .03476 .03472

.332 .334 .336 .338 747 ANGLE OF ATTACK, ALPHAC

FIG. 135 CARRIER ISOLATED, RFE029

.330

.328

.03468

.03464

.326

.342 .344

.340

.332 .334 .336 .338 747 ANGLE OF ATTACK, ALPHAC

FIG.135 CARRIER ISOLATED, RFE029

.330

.328

.0045

.342 .344

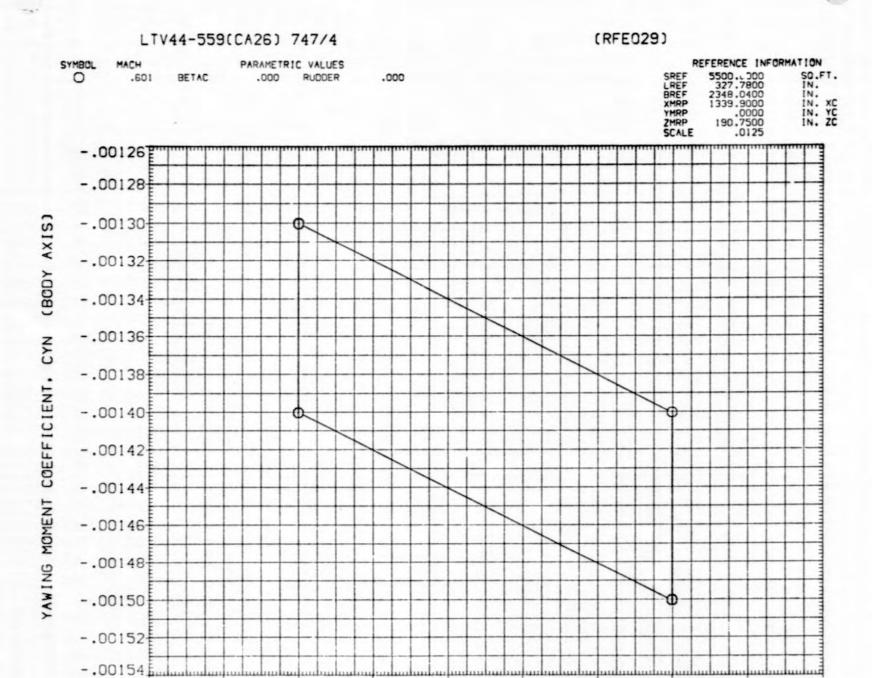


FIG.135 CARRIER ISOLATED, RFE029

.328

.326

.330

.332

.334

747 ANGLE OF ATTACK, ALPHAC

.336

.342

.340

PARAMETRIC VALUES

SYMBOL

REFERENCE INFORMATION

5500,0000 327,7800 2348,0400 1339,9000 .0000 190,7500 .0125 SREF LREF BREF XMRP SO.FT. 0 .601 BETAC .000 RUDDER .000 IN. IN. XC IN. YC IN. ZC YMRP ZMRP SCALE .00016-.00012 AXIS) .00008 (BODY .00004 0 -.00004 COEFFICIENT. -.00008 -.00012 -.00016 ROLLING MOMENT -.00020 -.00024 -.00028 -.00032 -.00036 .342 .344 .326 .328 .330 .332 .334 .336 .338 .340 747 ANGLE OF ATTACK. ALPHAC

FIG. 135 CARRIER ISOLATED, RFE029

.332 .334 .336 .338 747 ANGLE OF ATTACK, ALPHAC

.332

FIG.135 CARRIER ISOLATED, RFE029

.330

.328

.0688

.0684

.0680

.0676

.326

.340

.342 .344

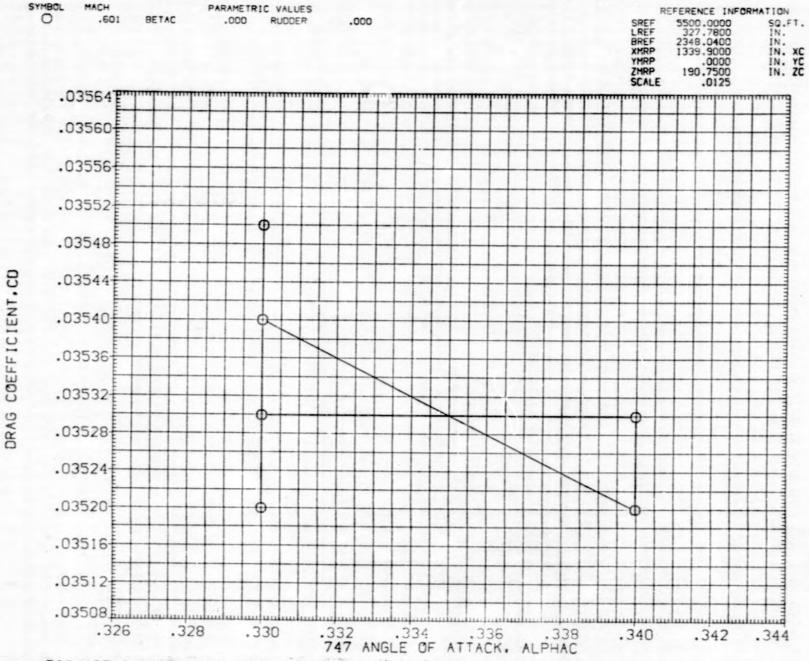
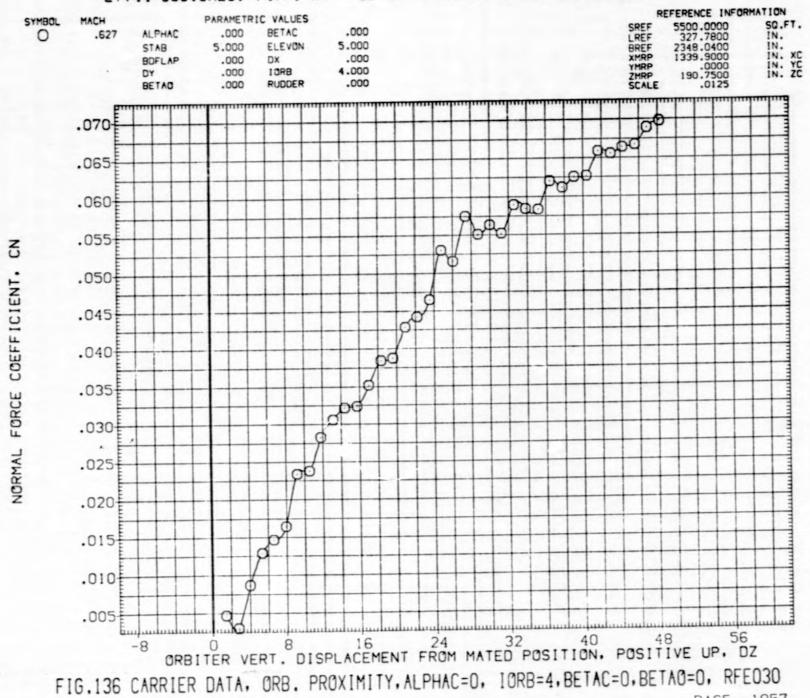
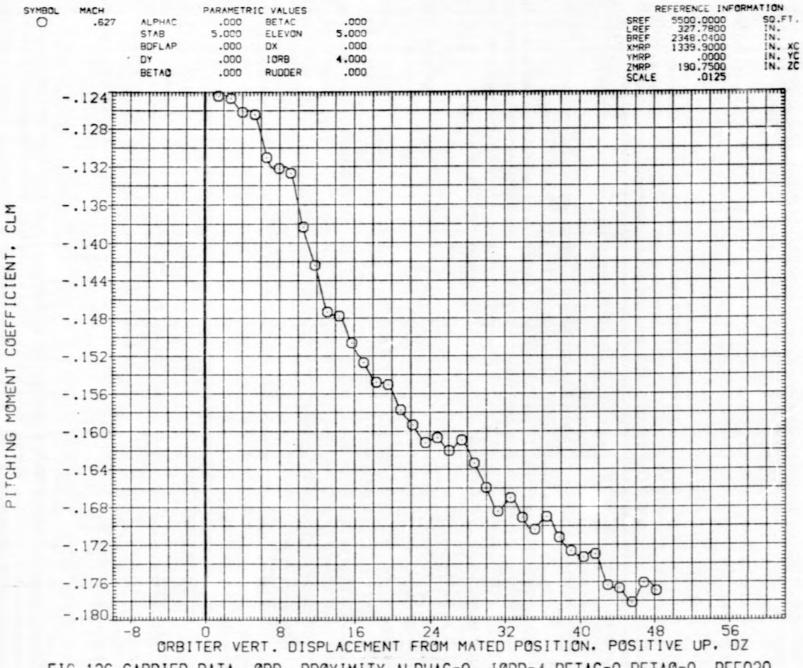


FIG.135 CARRIER ISOLATED, RFE029

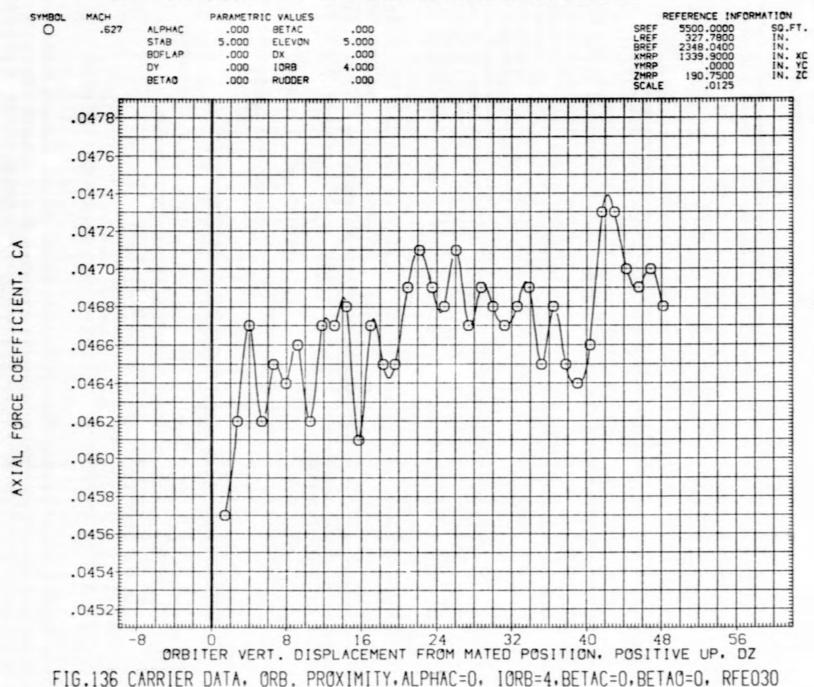
LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE030)



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE030)



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE030)



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE030)

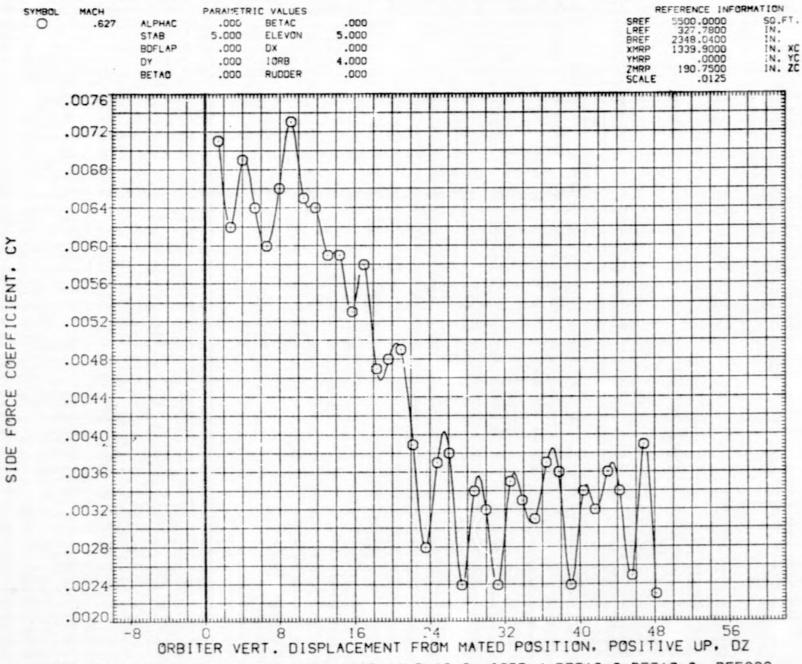
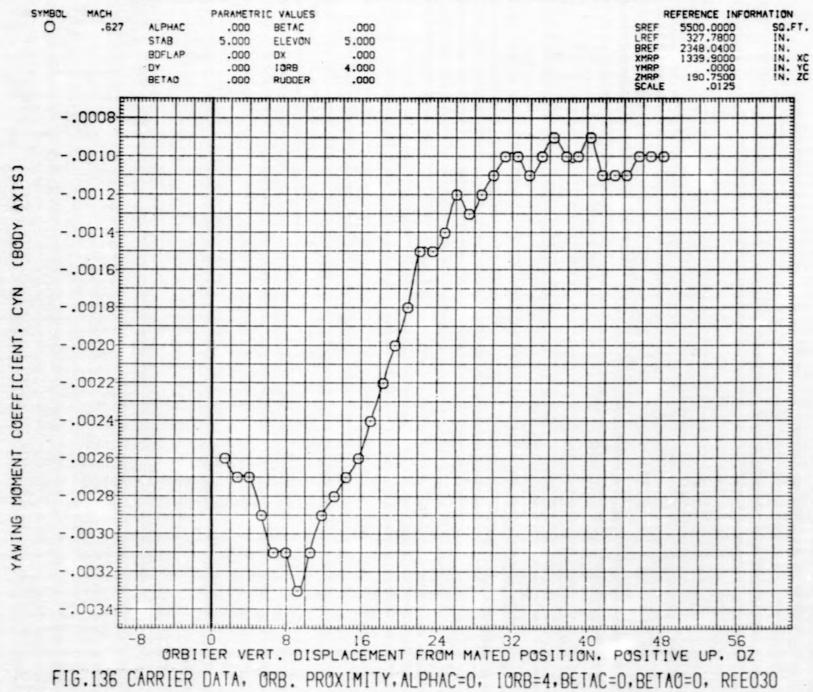


FIG.136 CARRIER DATA, ORB. PROXIMITY, ALPHAC=0, IORB=4, BETAC=0, BETAO=0, RFE030

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LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE030)



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE030)

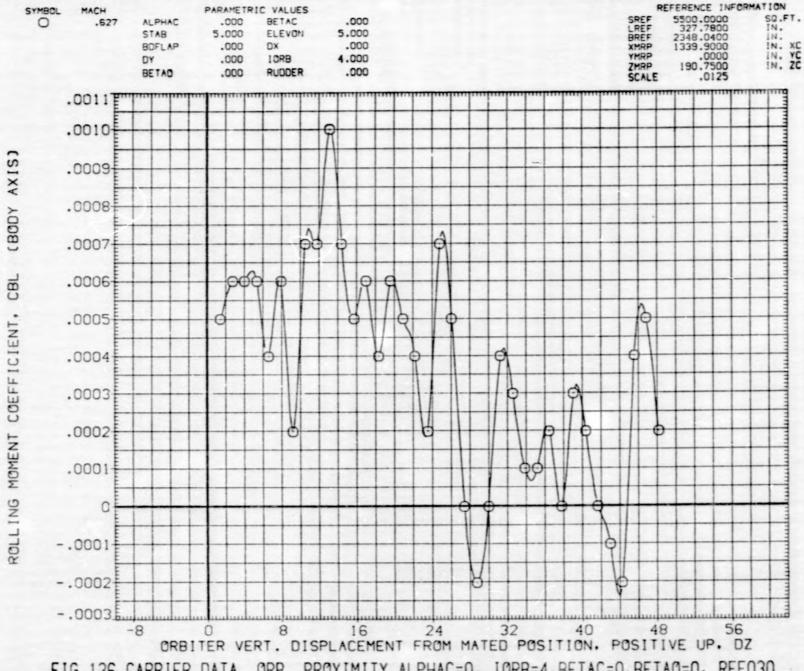
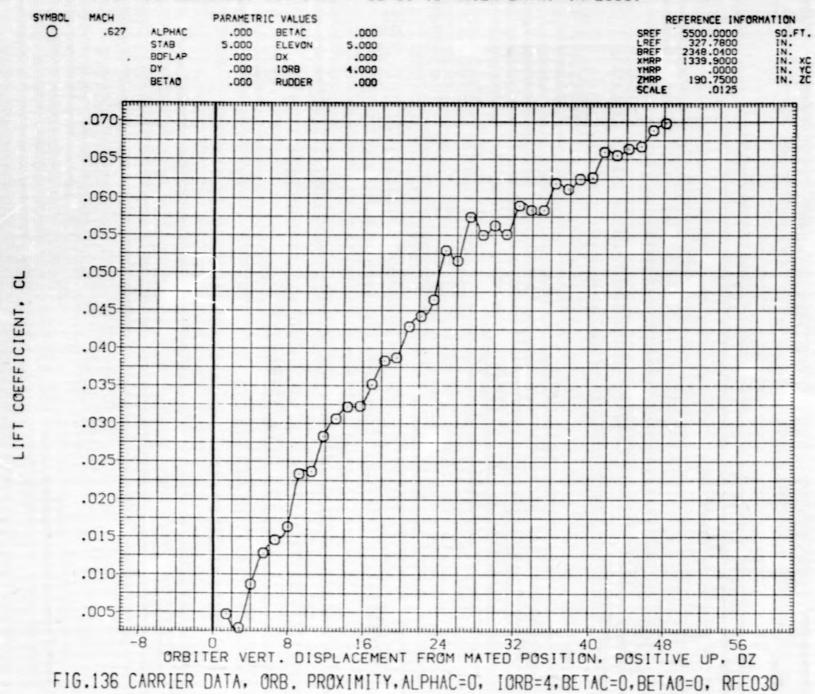


FIG.136 CARRIER DATA, ORB. PROXIMITY, ALPHAC=0, IORB=4, BETAC=0, BETAO=0, RFEO30
PAGE 1062

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE030)



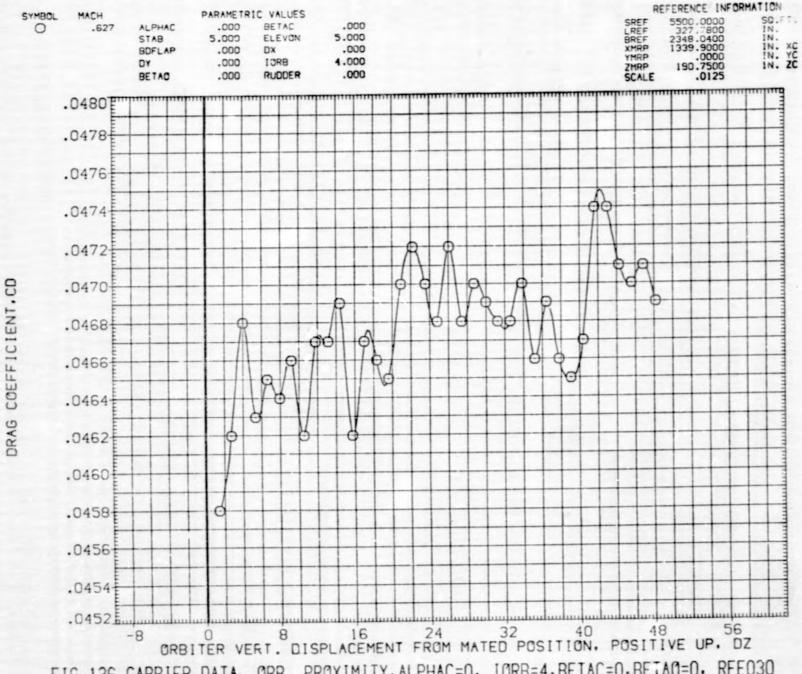
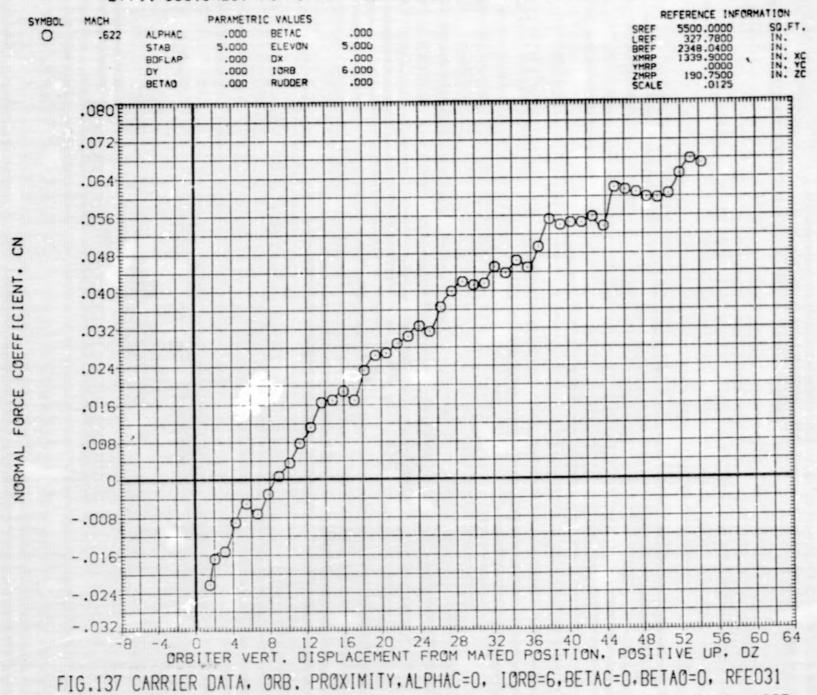


FIG.136 CARRIER DATA, ORB. PROXIMITY, ALPHAC=0, IORB=4, BETAC=0, BETAO=0, RFE030
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LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE031)



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE031)

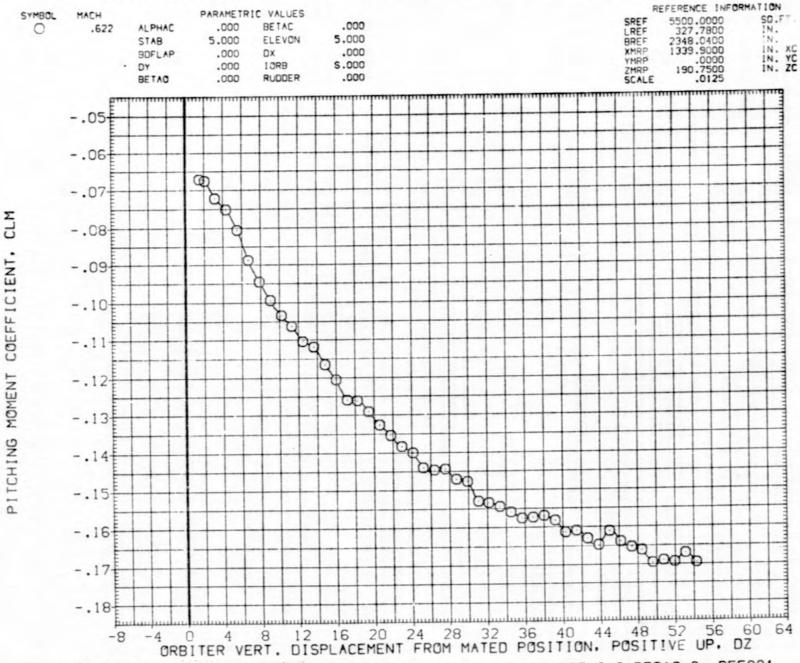
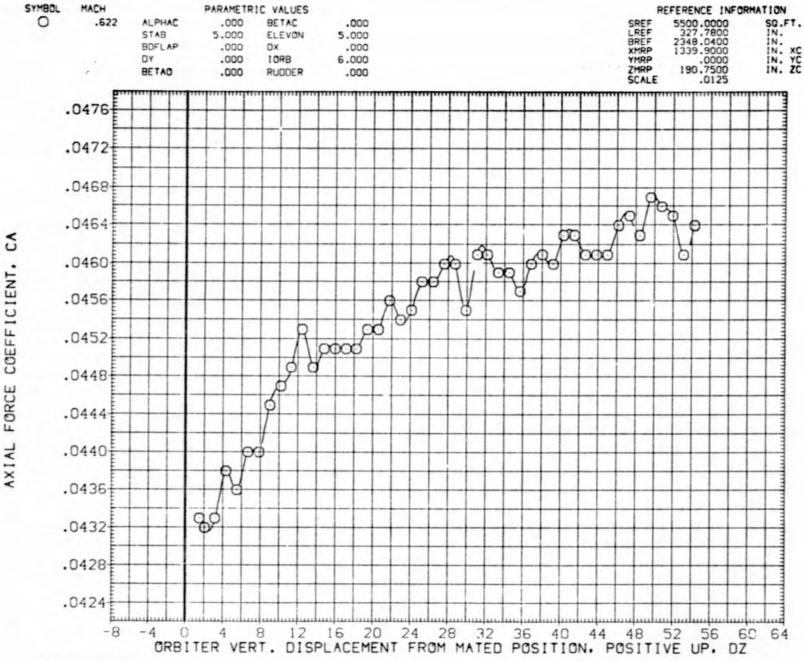


FIG.137 CARRIER DATA, ORB. PROXIMITY, ALPHAC=0, IORB=6, BETAC=0, BETAO=0, RFE031

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE031)



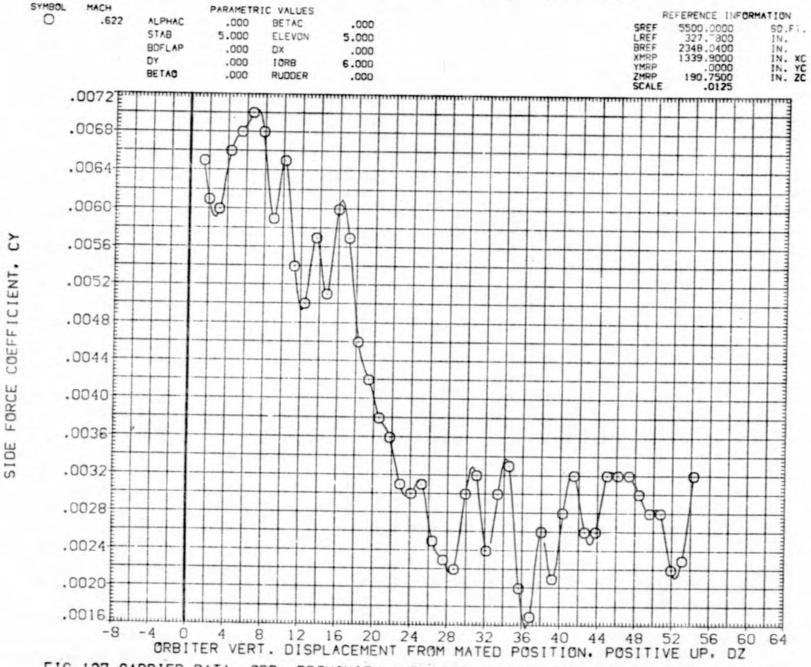
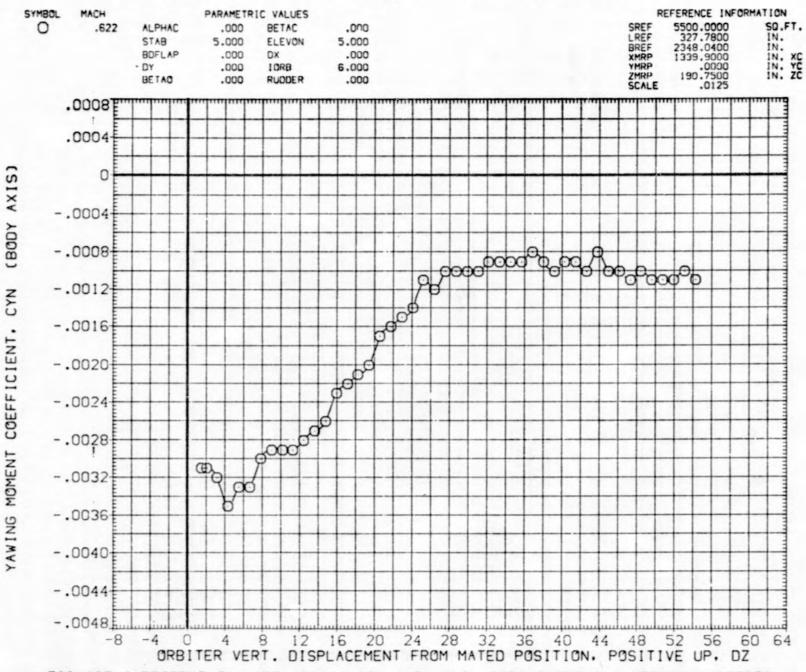
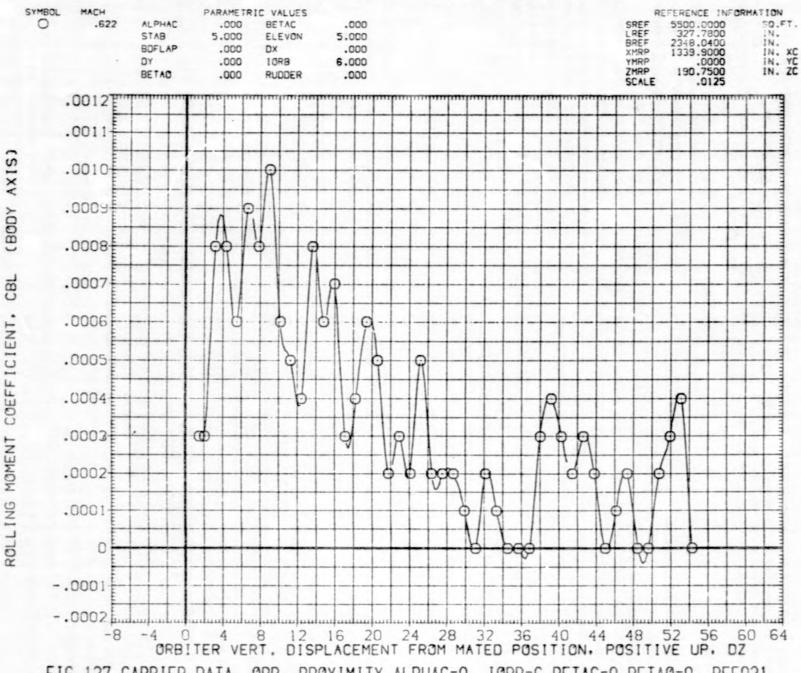


FIG.137 CARRIER DATA, ORB. PROXIMITY, ALPHAC=0, IORB=6, BETAC=0, BETAO=0, RFEO31

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE031)

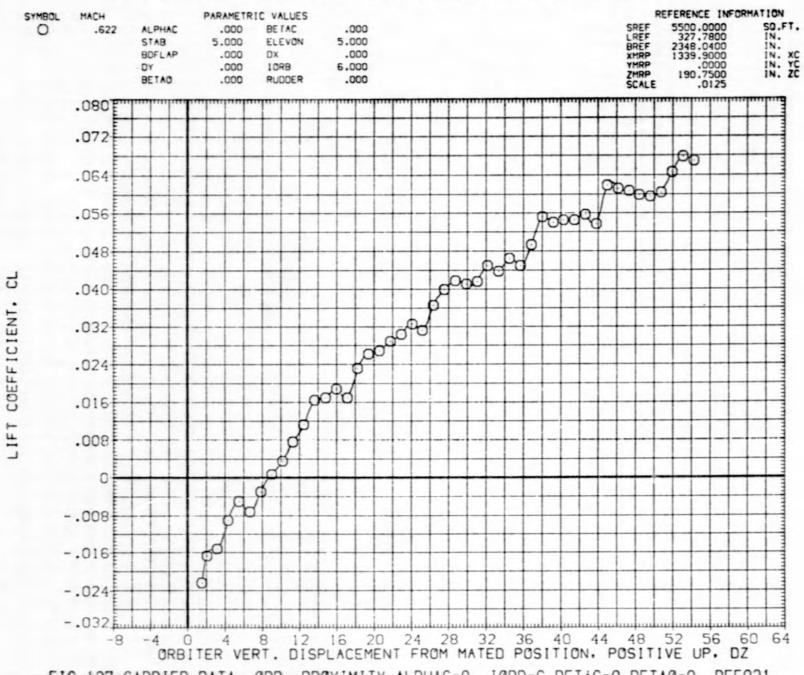


LTV44-559(CA26) 747/1 ATY 02 SI (CARRIER DATA) (RFE031)





LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE031)



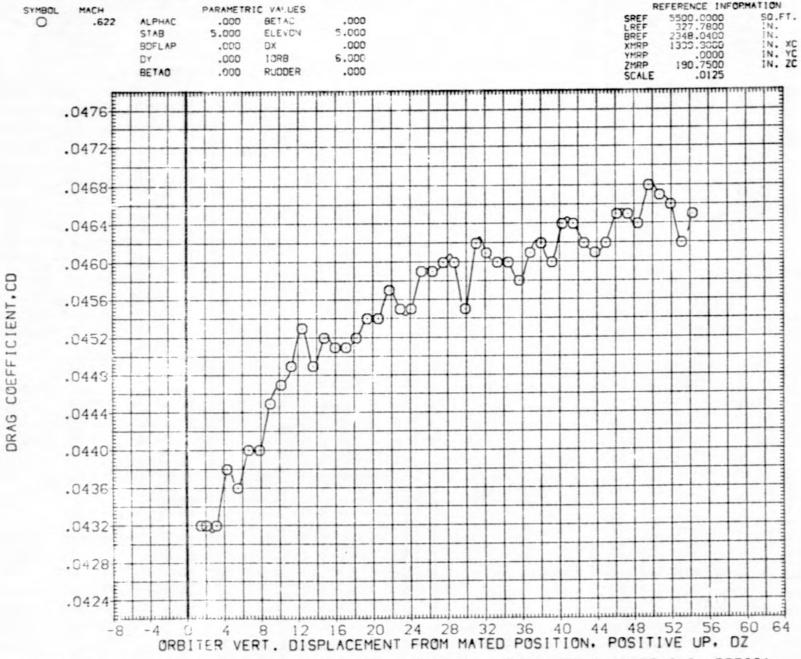
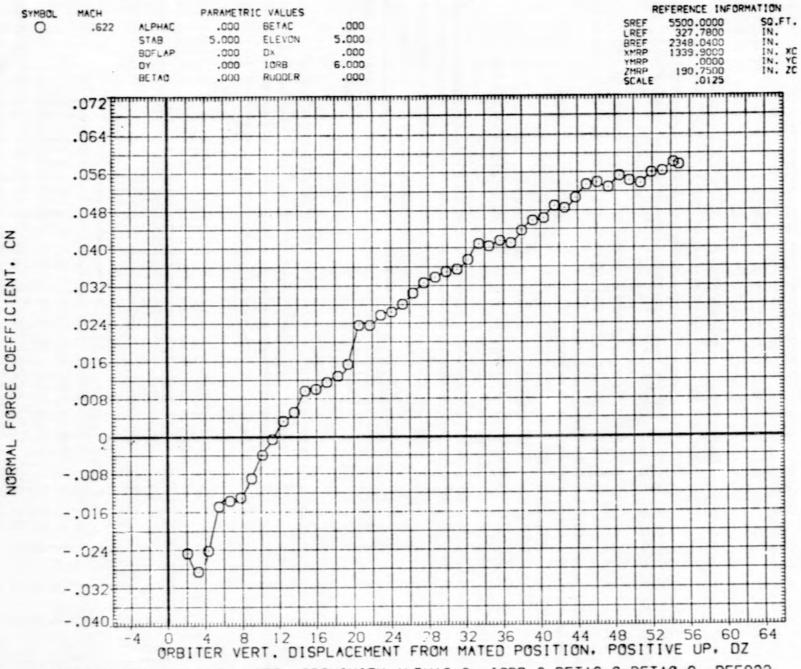
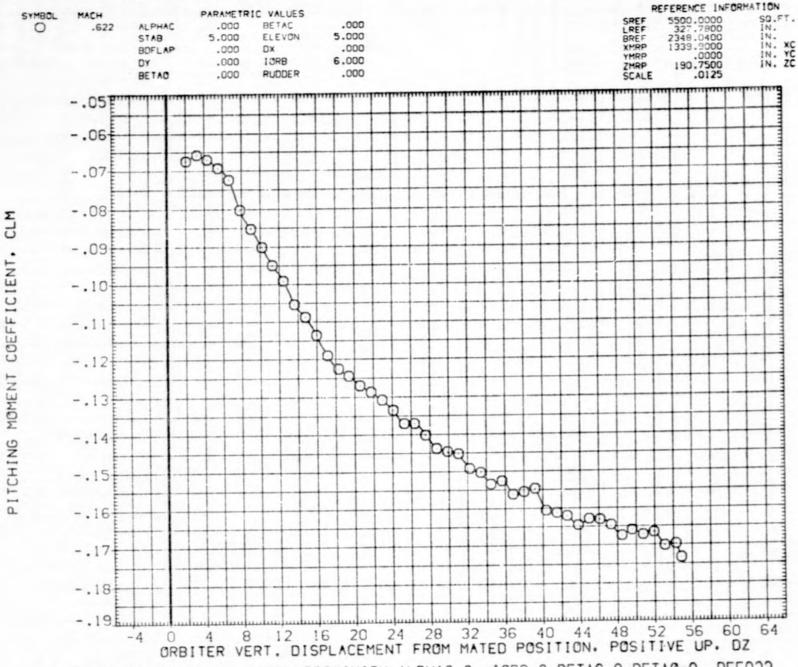


FIG.137 CARRIER DATA, ORB. PROXIMITY, ALPHAC=0, IORB=6, BETAC=0, BETAO=0, RFEO31

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE032)



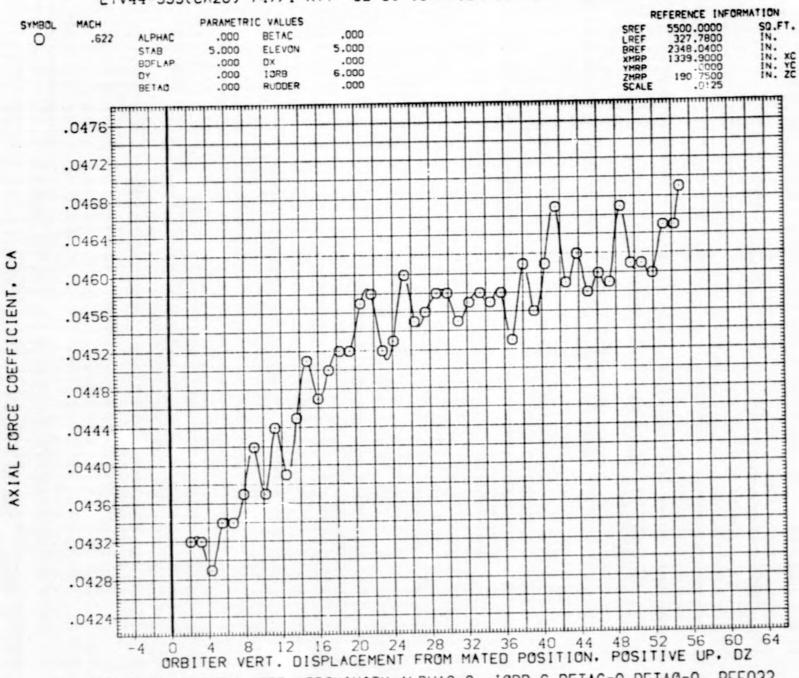
LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE032)







LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE032)



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE032)

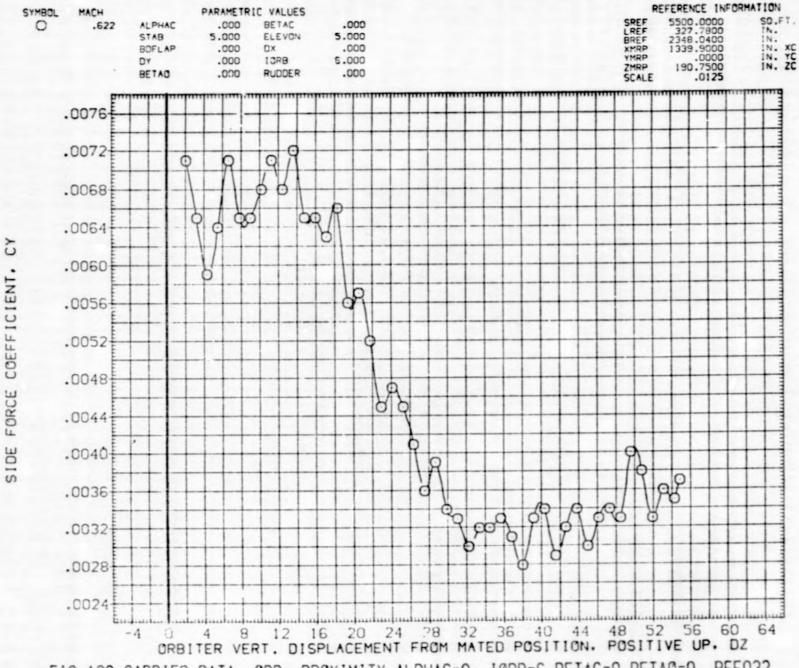
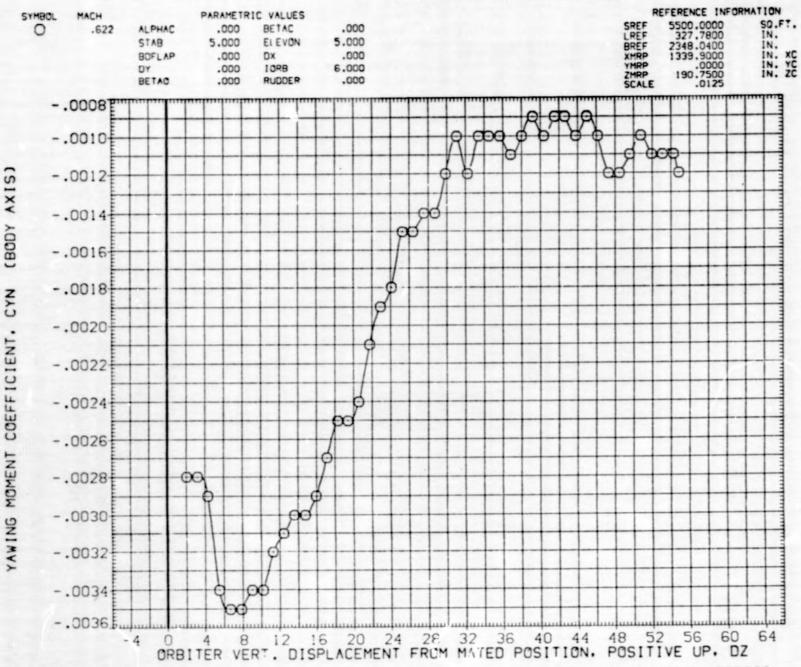


FIG.138 CARRIER DATA, ORB. PROXIMITY, ALPHAC=0, IORB=6.BETAC=0.BETAO=0, RFEO32

LTV44-559(CA26) 747/1 ATY 02 SI (CARRIER DATA) (RFE032)



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE032)

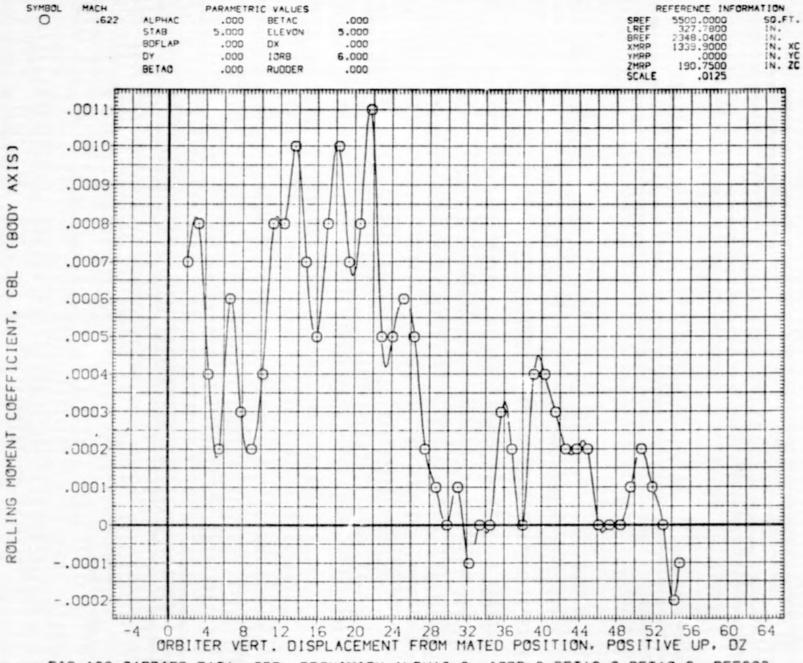
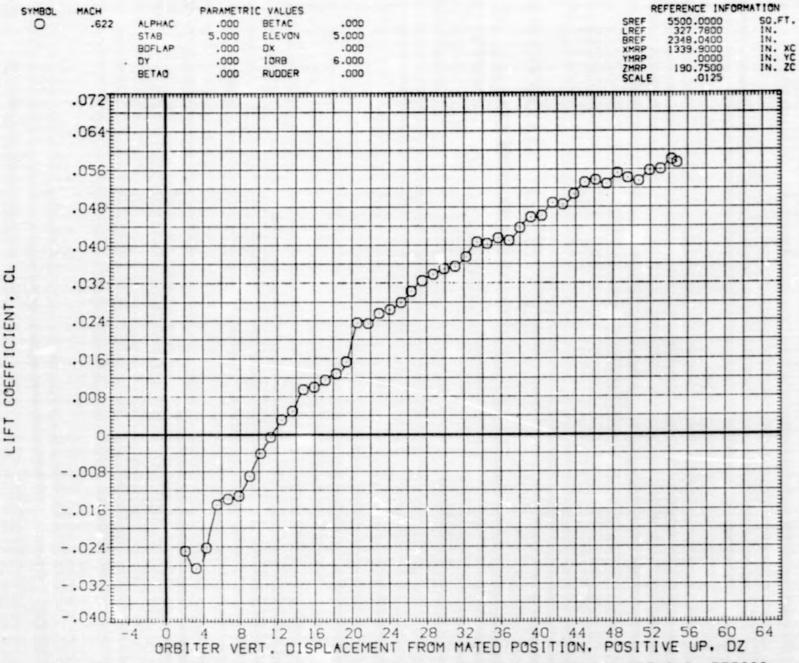
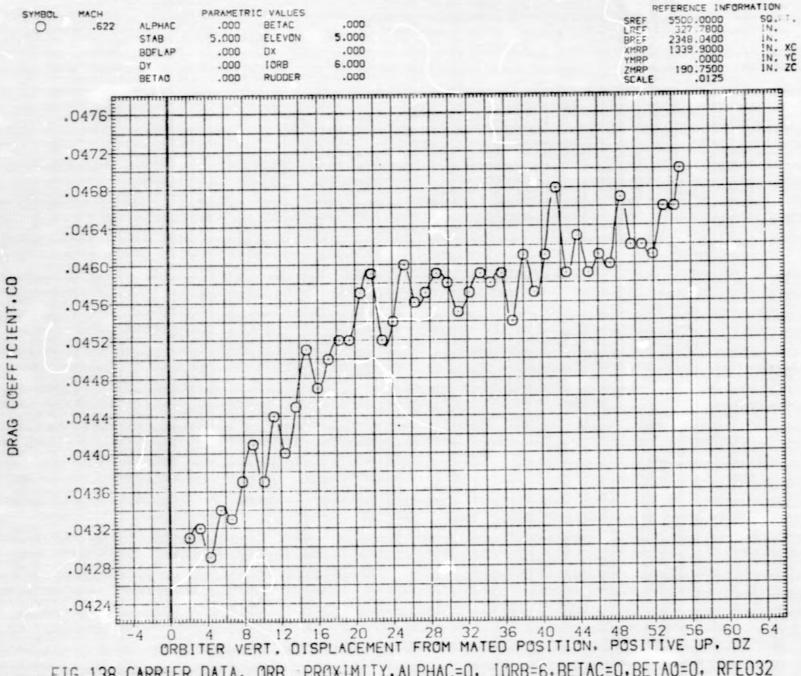


FIG.138 CARRIER DATA, ORB. PROXIMITY, ALPHAC=0, IORB=6, BETAC=0, BETAO=0, RFEO32

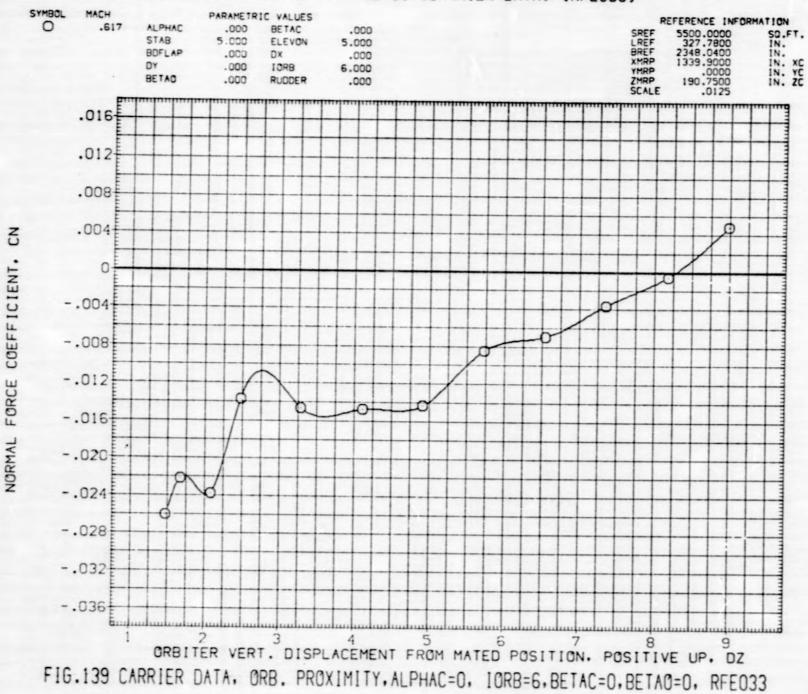
LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE032)

0



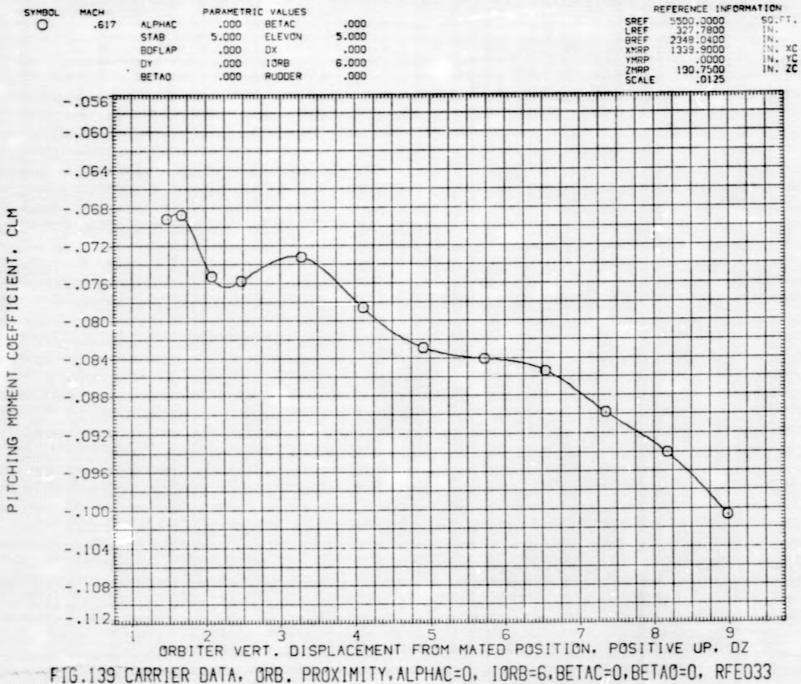


LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE033)

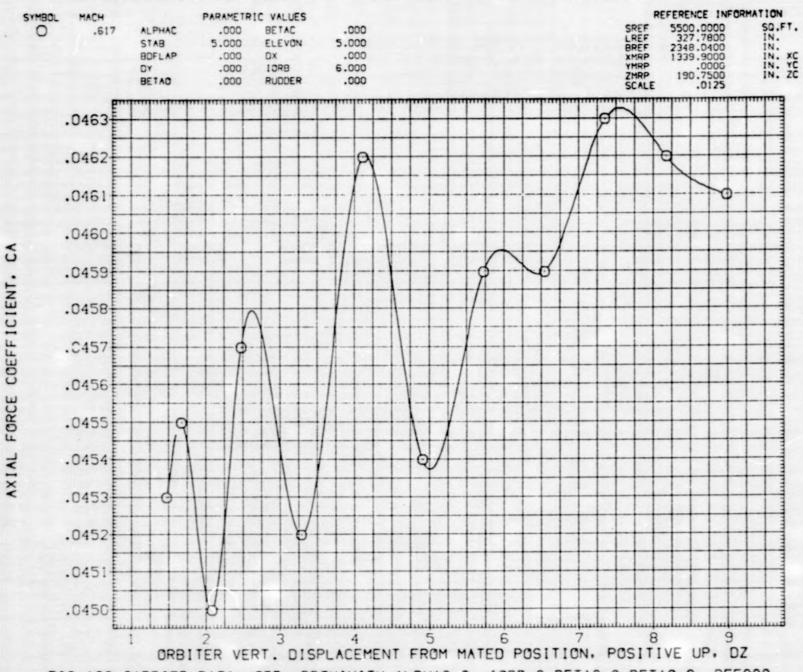


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LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE033)



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE033)



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE033)

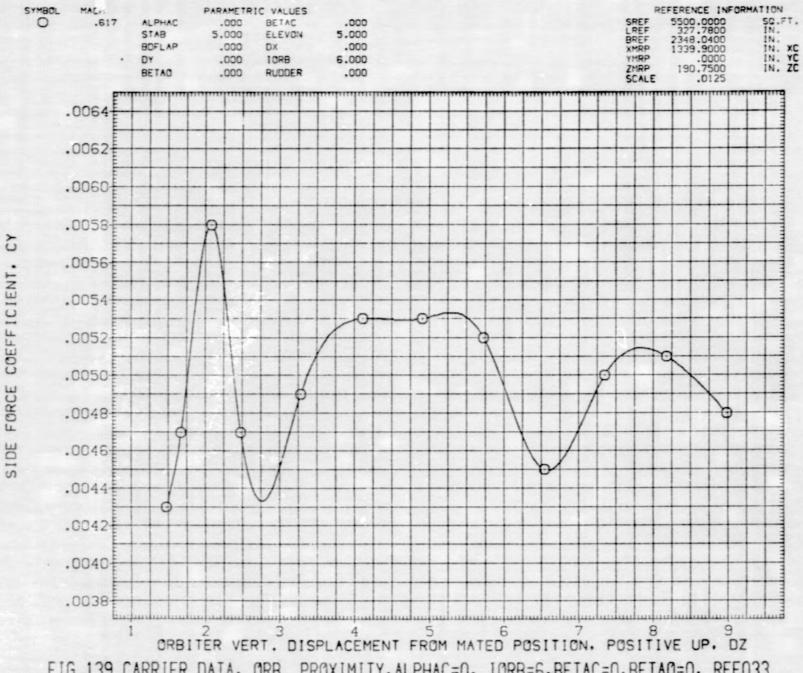
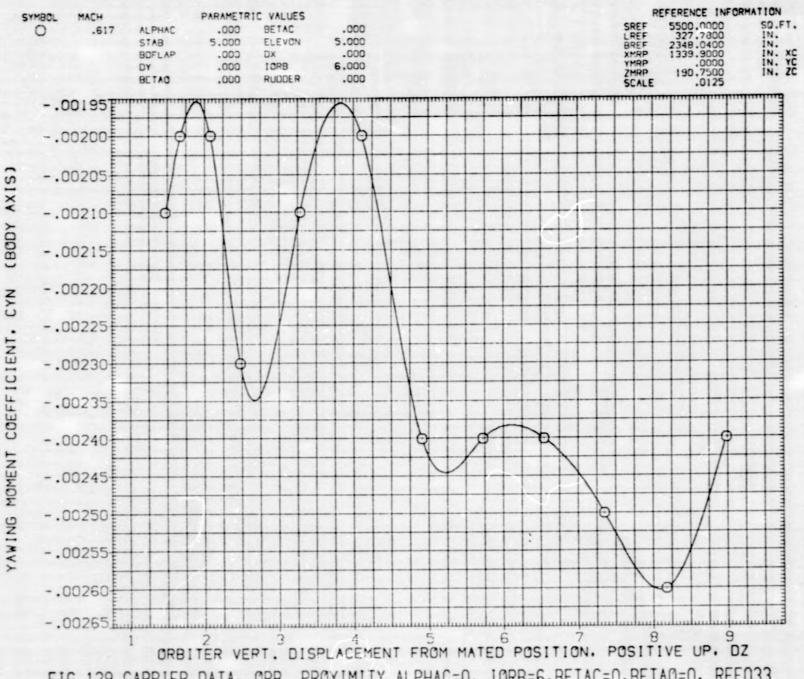
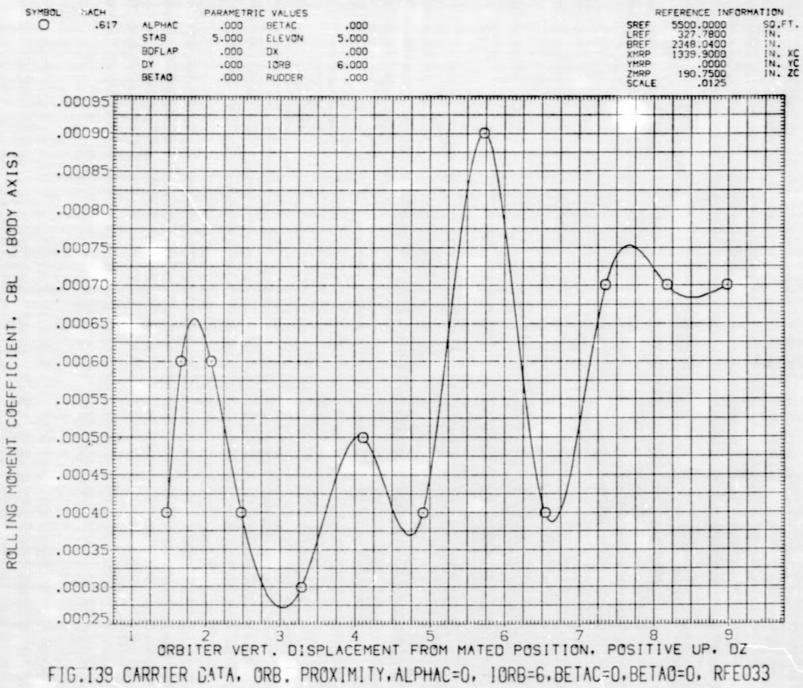


FIG. 139 CARRIER DATA, ORB. PROXIMITY, ALPHAC=O, IORB=6, BETAC=0, BETAO=0, RFEO33 PAGE 1084

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE033)

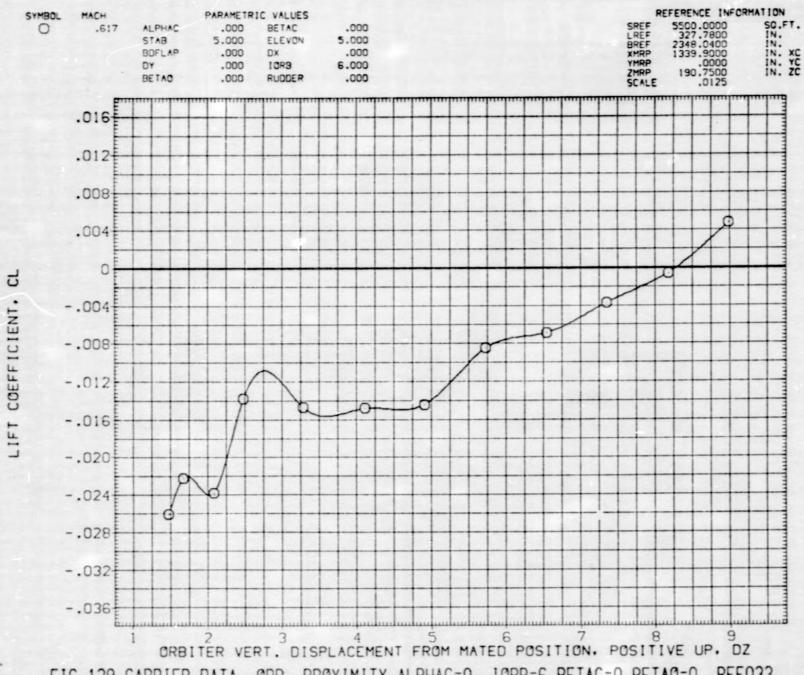


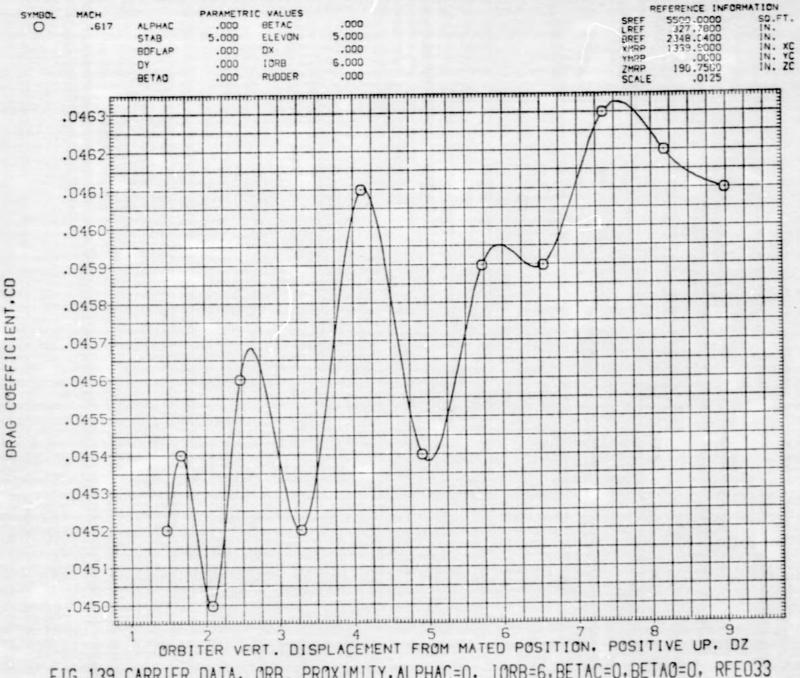
LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE033)



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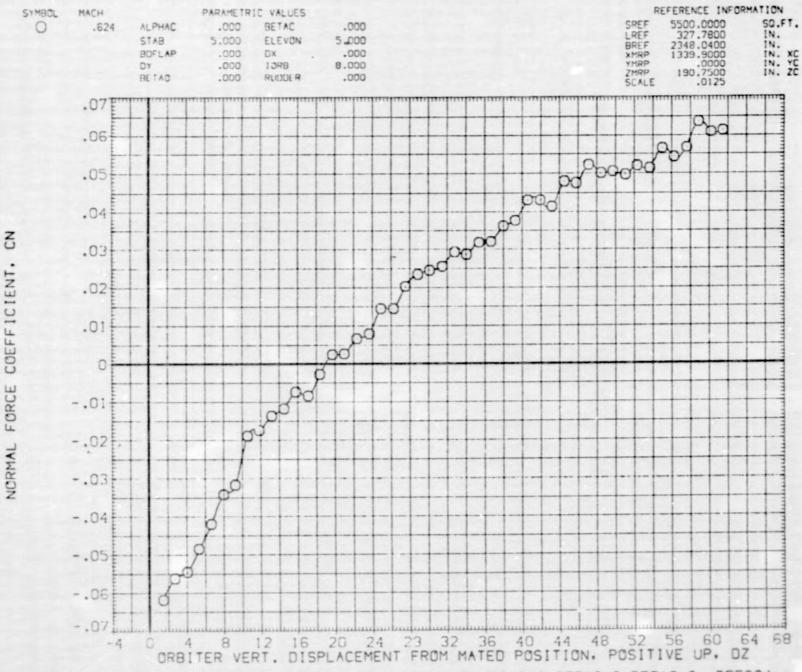
LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE033)







LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE034)



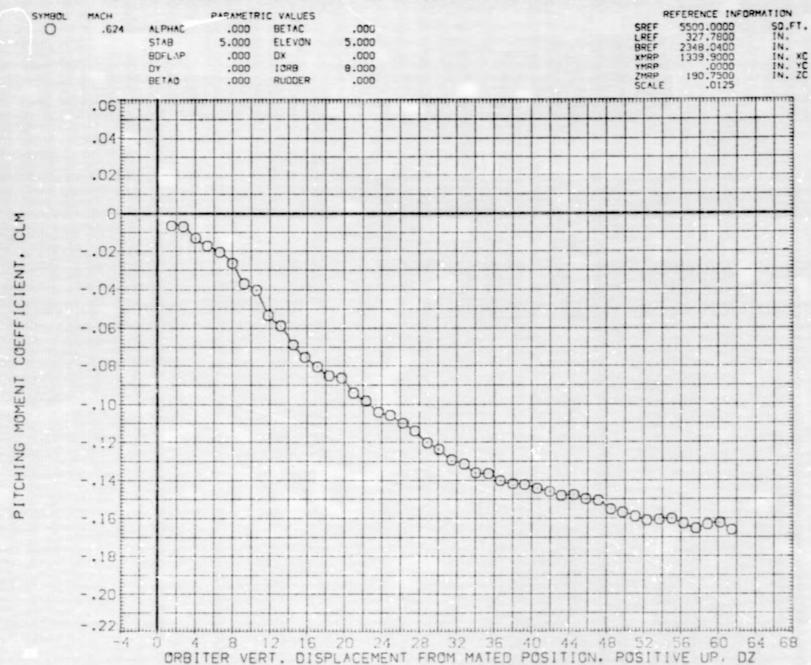


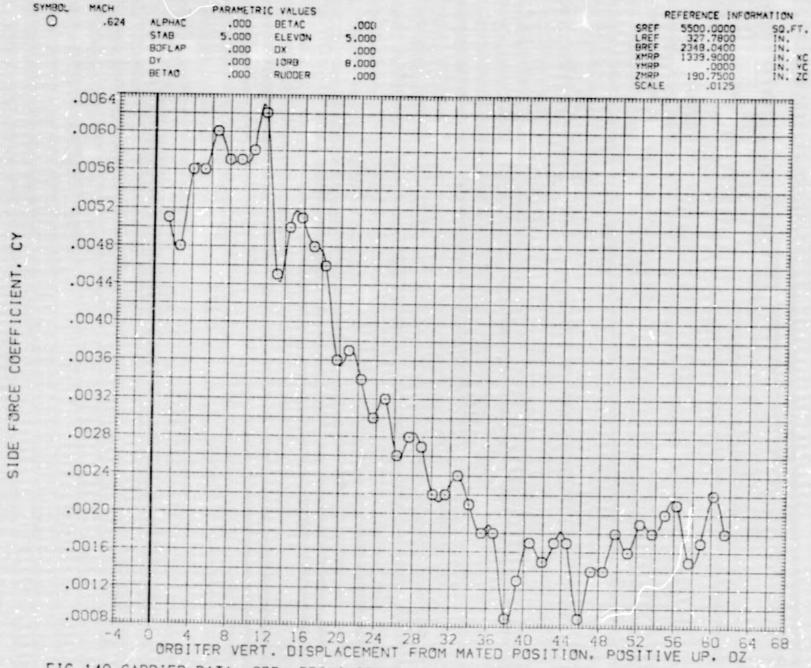
FIG.140 CARRIER DATA, ORB. PROXIMITY, ALPHAC=0, 10RB=8, BETAC=0, BETAG=0, RFE034

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE034)

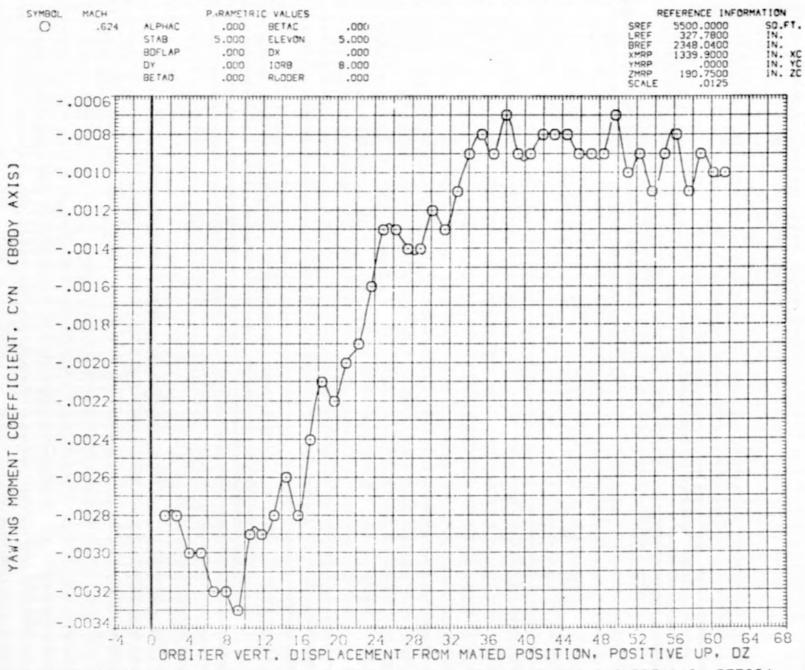


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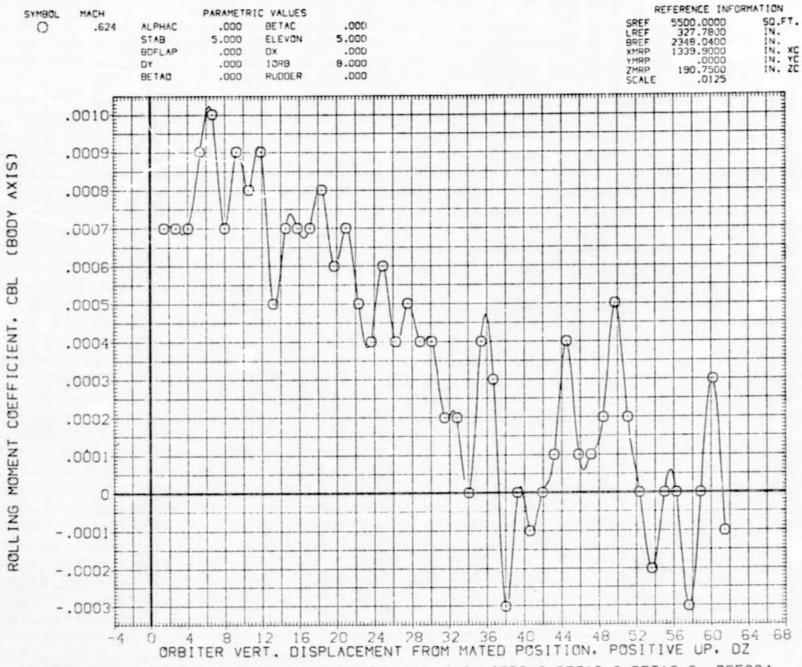
LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE034)



LTV44-559(CA26) 747/1 ATY 02 SI (CARRIER DATA) (RFE034)

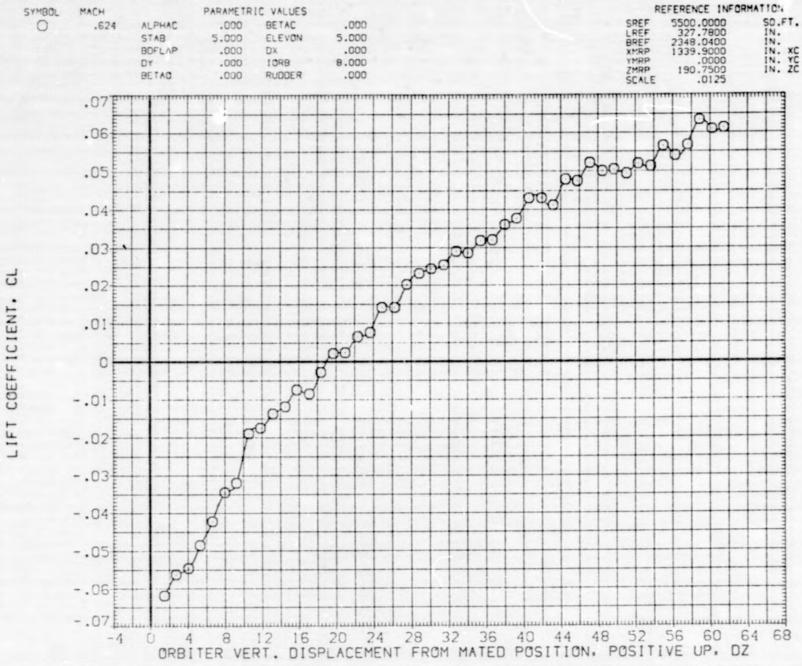


LTV44-559(CA26) 747/1 ATY 02 SI (CARRIER DATA) (RFE034)

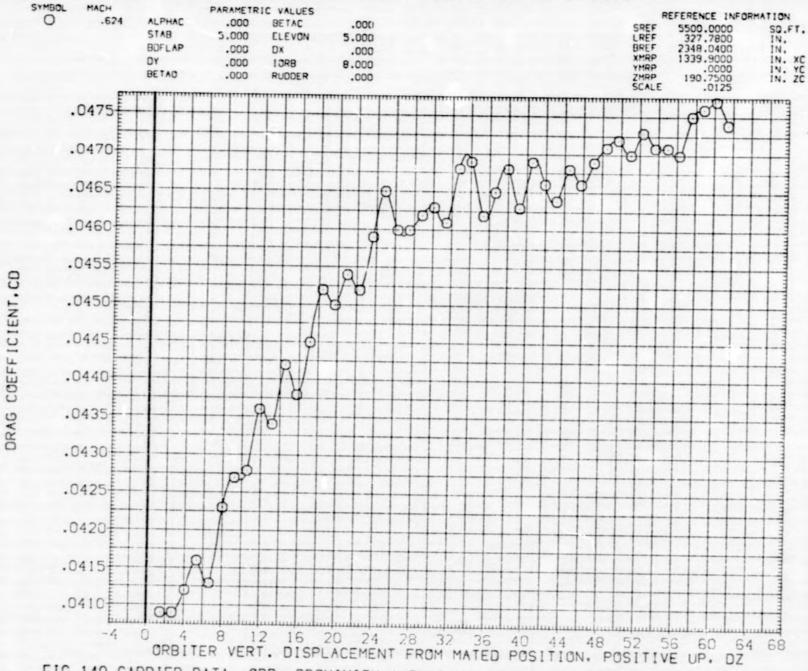


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LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE034)

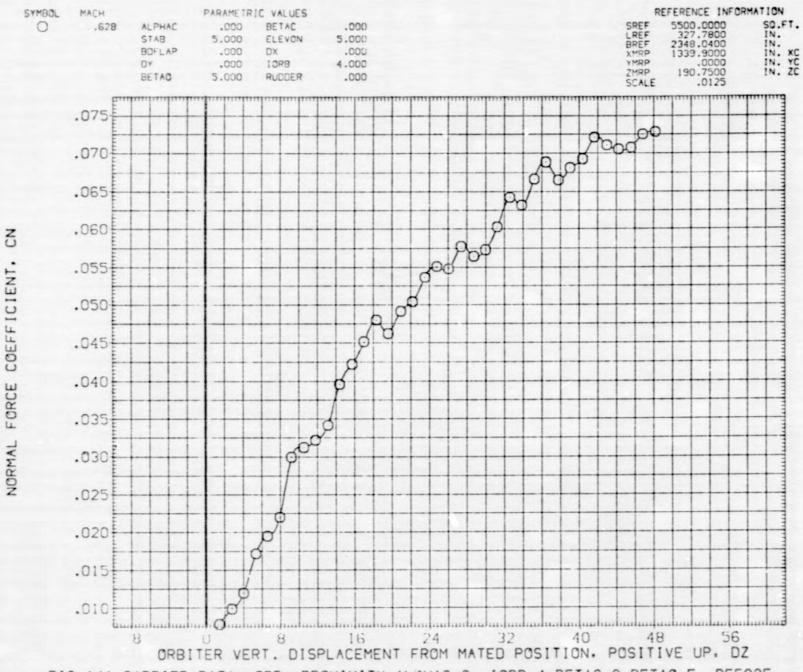


LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE034)



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LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE035)



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE035)

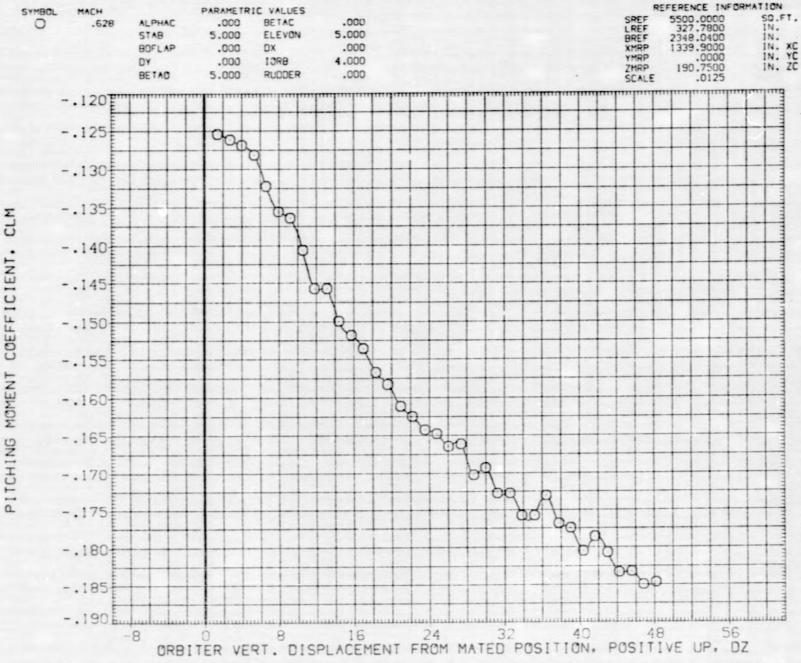
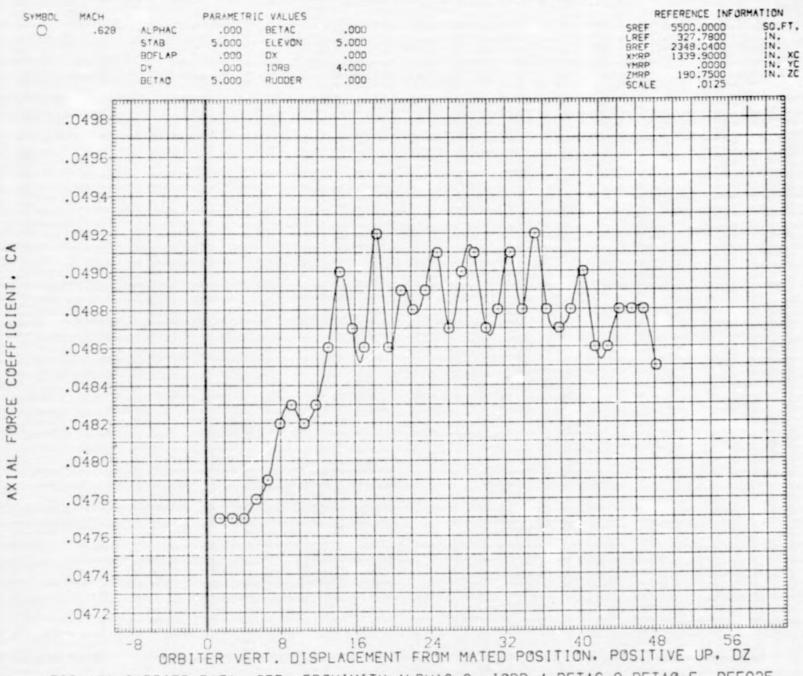
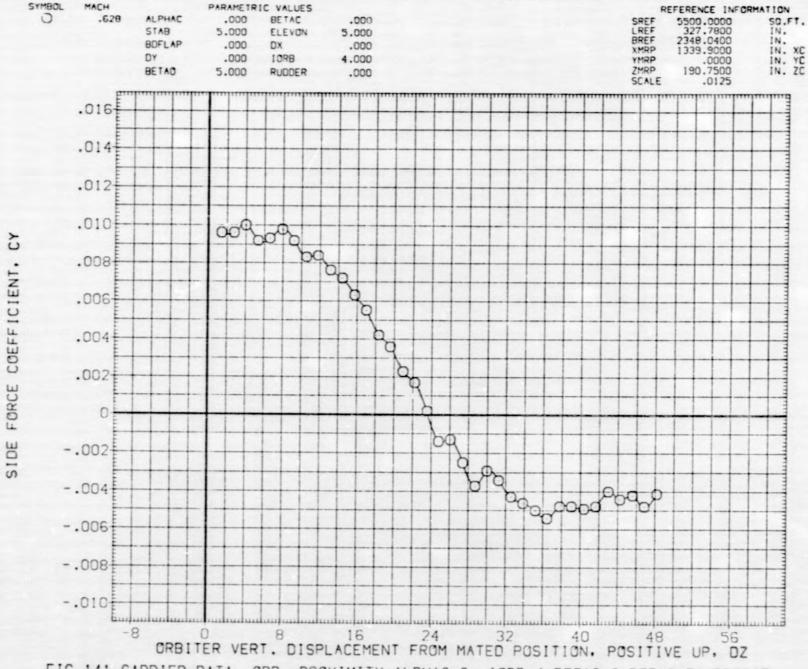


FIG.141 CARRIER DATA, ORB. PROXIMITY, ALPHAC=0, IORB=4, BETAC=0, BETAO=5, RFEO35

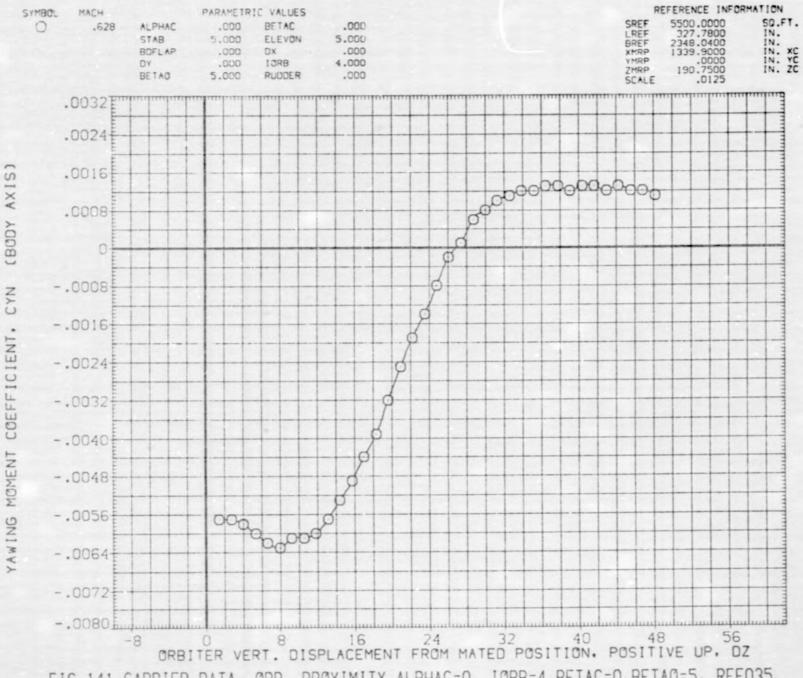
LTV44-559(CA26) 747/1 ATY 02 SI (CARRIER DATA) (RFE035)



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE035)



LTV44-559(CA26) 747/1 ATY 02 SI (CARRIER DATA) (RFE035)



LTV44-559(CA26) 747/1 ATY C2 S1 (CARRIER DATA) (RFE035)

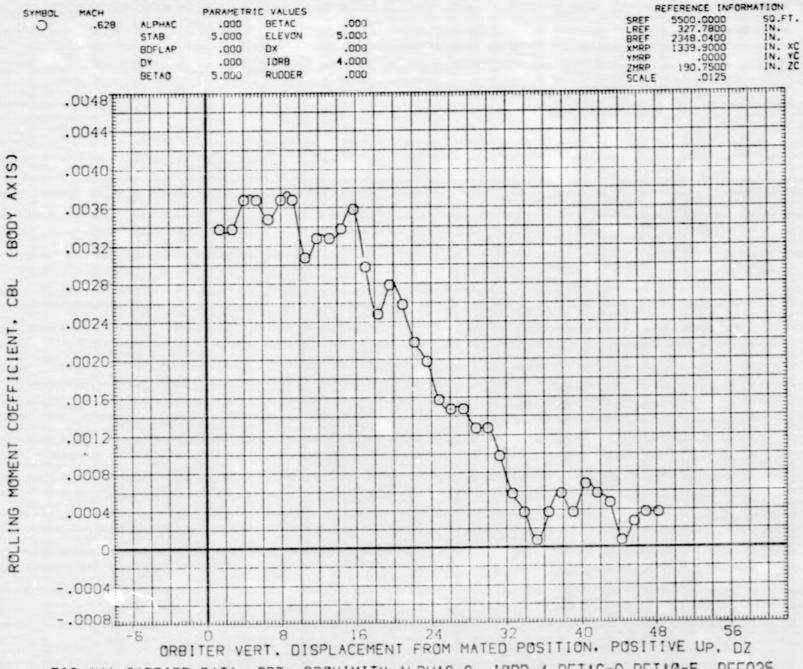
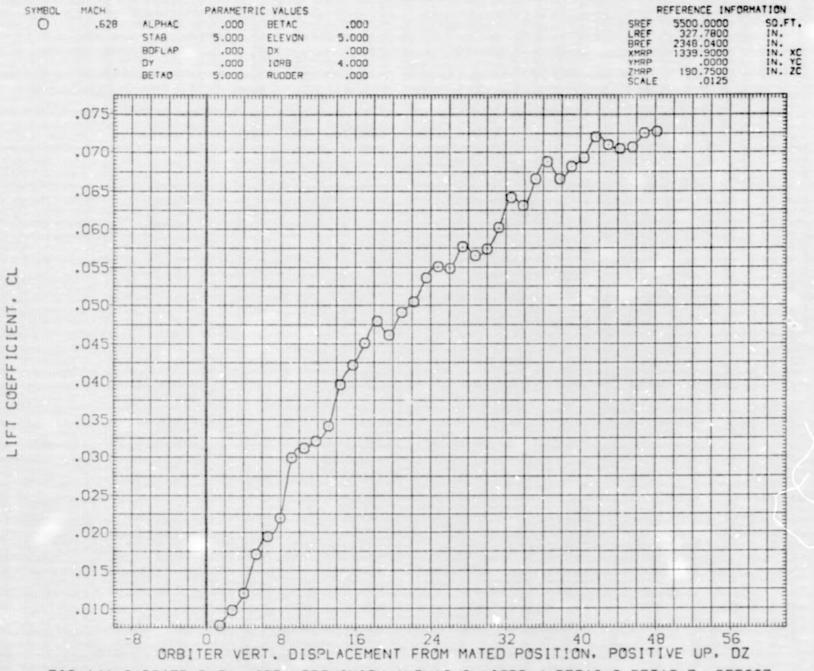


FIG.141 CARRIER DATA, ORB. PROXIMITY, ALPHAC=0, IORB=4, BETAC=0, BETAO=5, RFE035

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE035)



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE035)

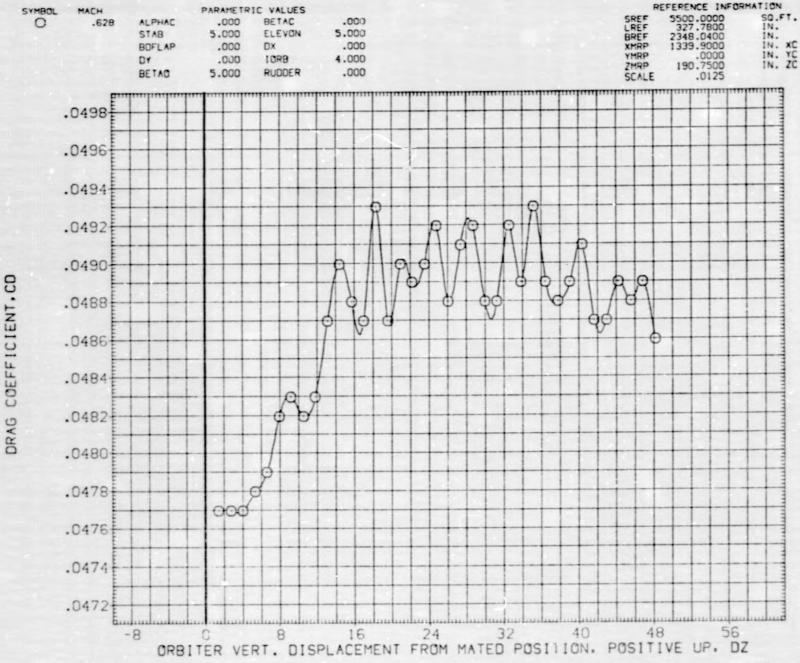
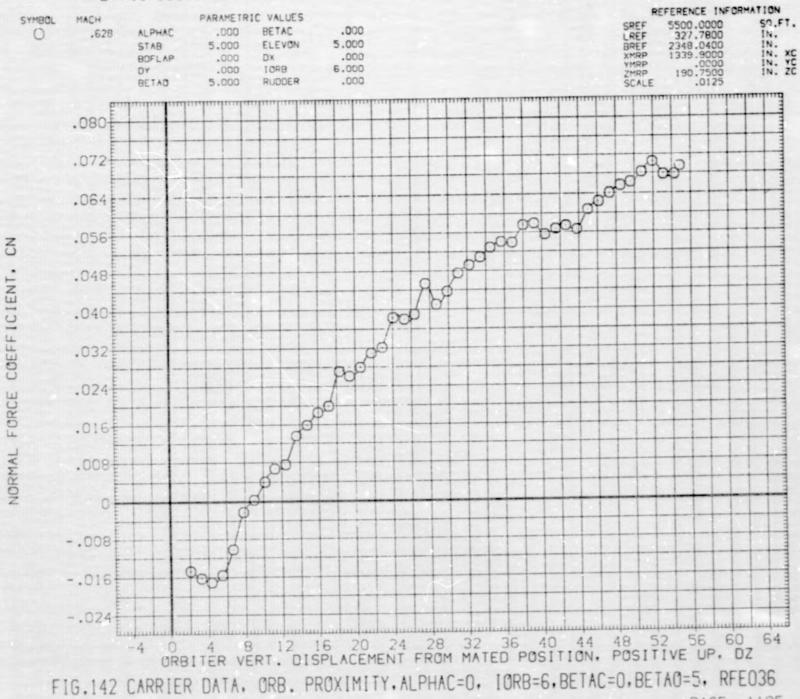


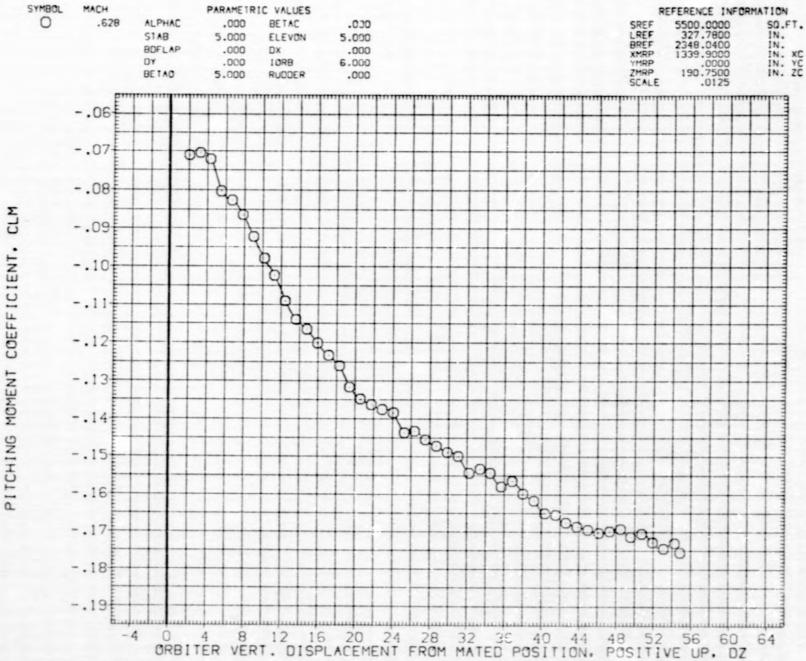
FIG.141 CARRIER DATA, ORB. PROXIMITY, ALPHAC=0, IORB=4, BETAC=0, BETAO=5, RFE035

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE036)

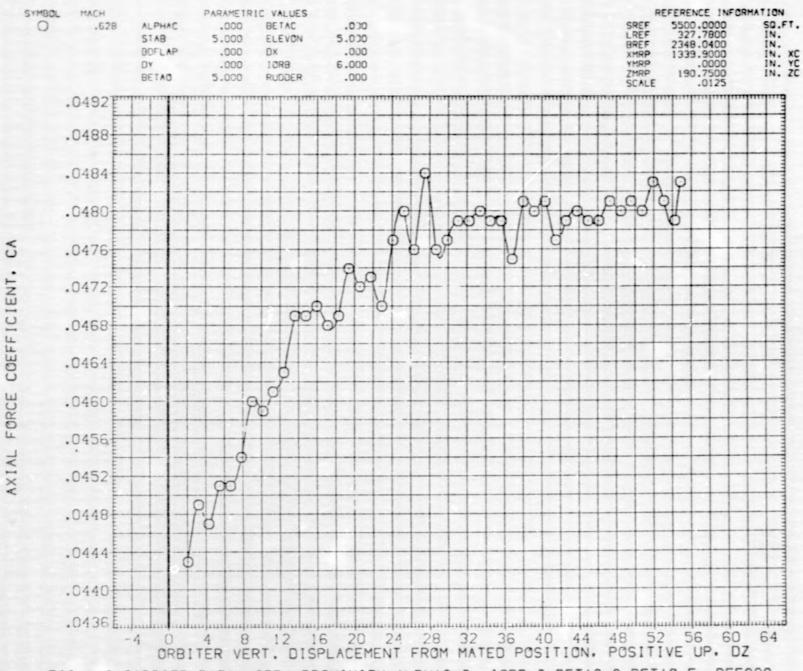


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LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE036)



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE036)



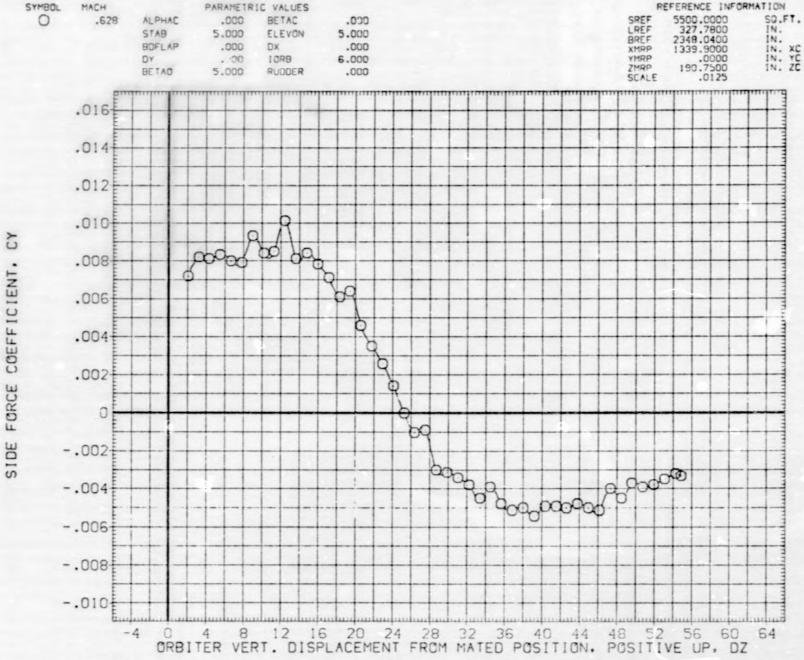
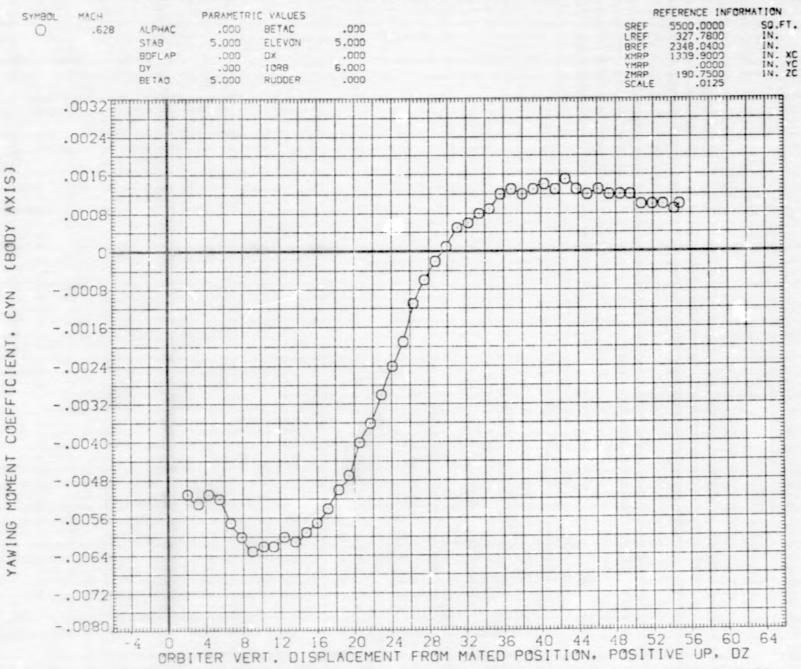


FIG.142 CARRIER DATA, ORB. PROXIMITY, ALPHAC=0, IORB=6, BETAC=0, BETAO=5, RFE036

0

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE036)



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE036)

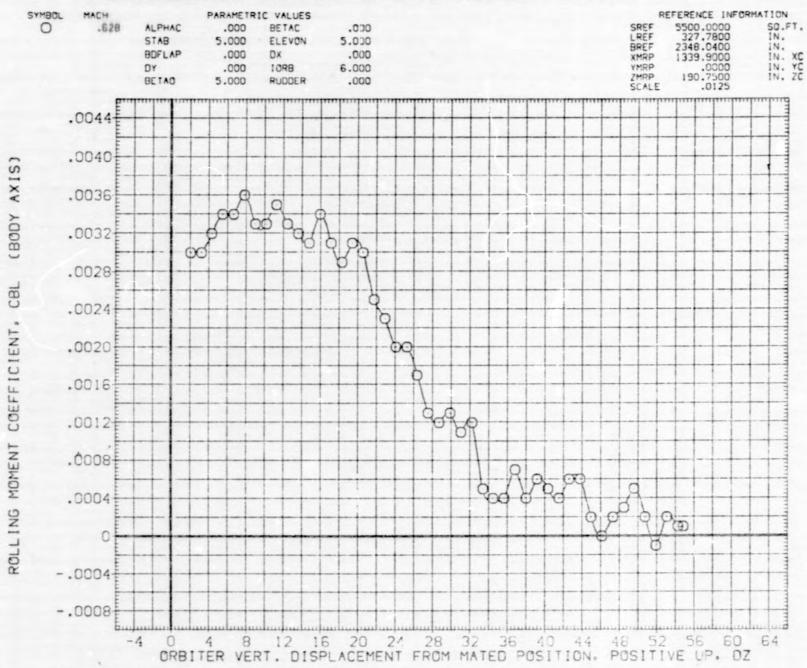


FIG.142 CARRIER DATA, ORB. PROXIMITY, ALPHAC=0, IORB=6, BETAC=0, BETAO=5, RFE036

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE036)

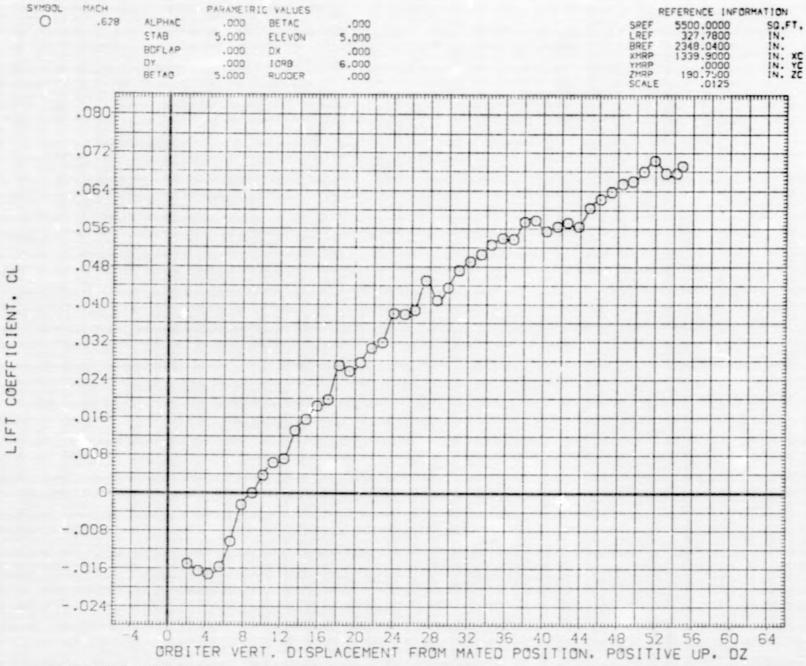


FIG.142 CARRIER DATA, ORB. PROXIMITY. ALPHAC=O, IORB=6, BETAC=0, BETAC=5, RFE036

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE036)

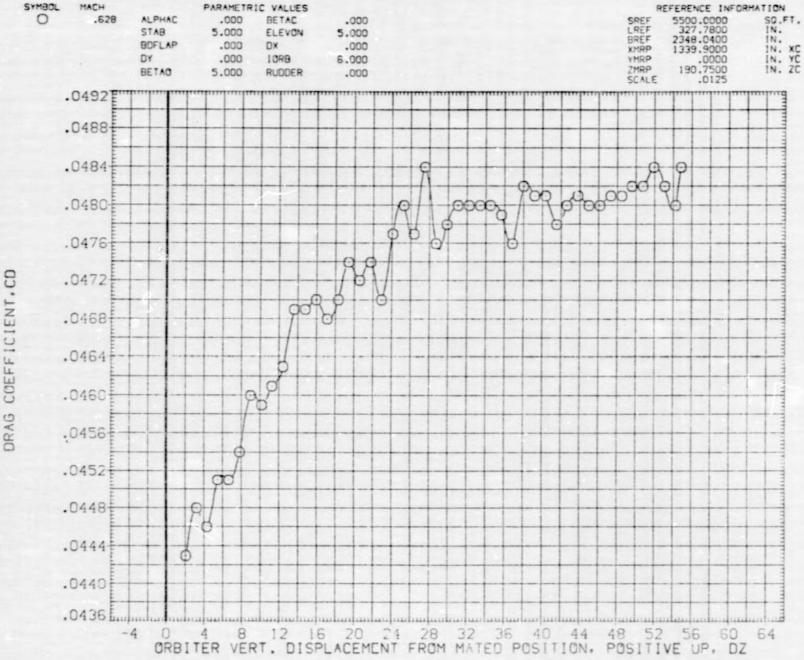
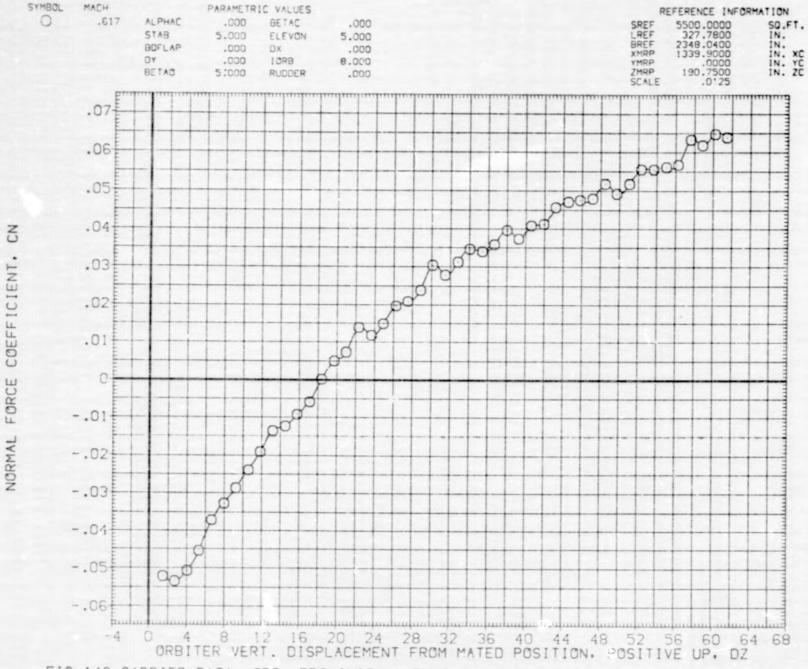


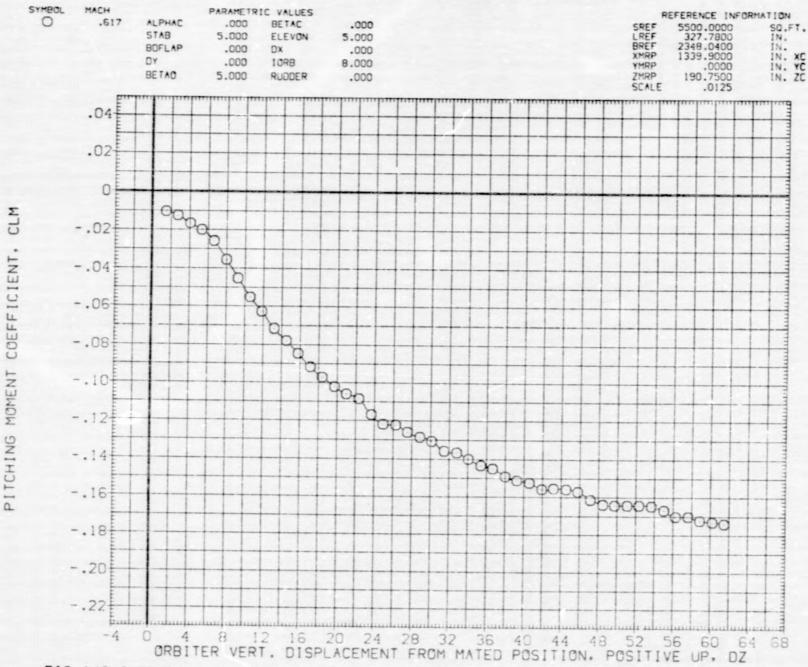
FIG.142 CARRIER DATA, ORB. PROXIMITY, ALPHAC=0, IORB=6, BETAC=0, BETAO=5, RFE036

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LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE037)



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE037)



LTV44-559(CA26) 747/1 ATY 02 SI (CARRIER DATA) (RFE037)



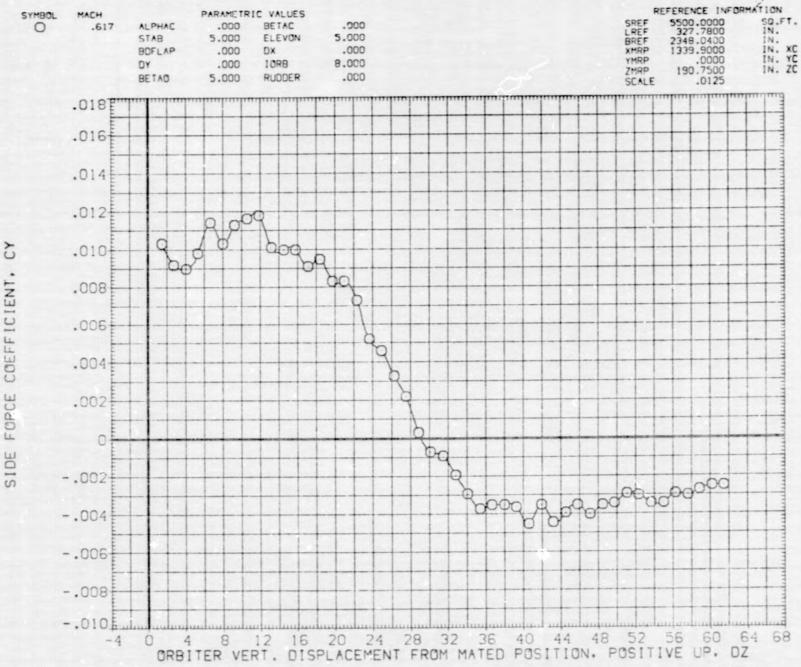


FIG.143 CARRIER DATA, ORB. PROXIMITY, ALPHAC=0, IORB=8, BETAC=0, BETAO=5, RFEO37

LTV44-559(CA26) 747/1 ATY 02 SI (CARRIER DATA) (RFE037)

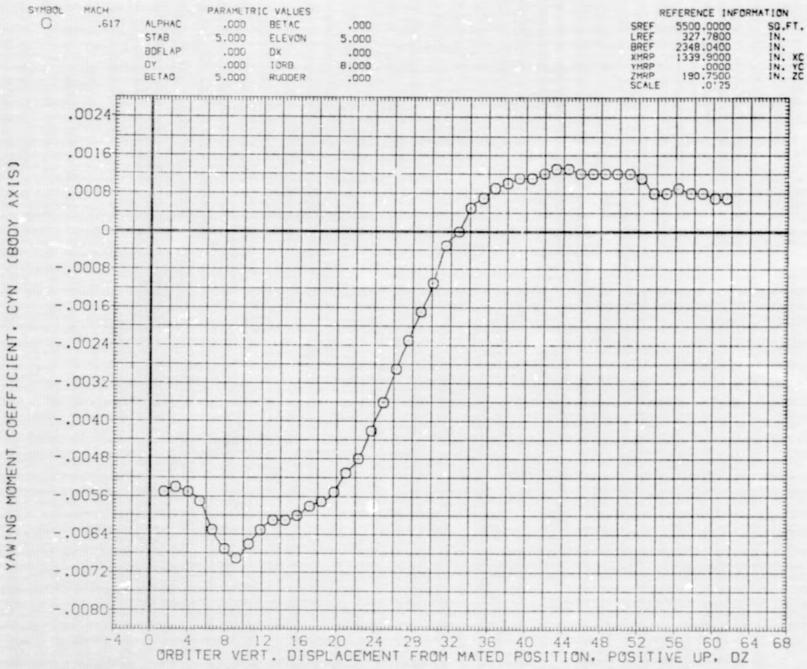
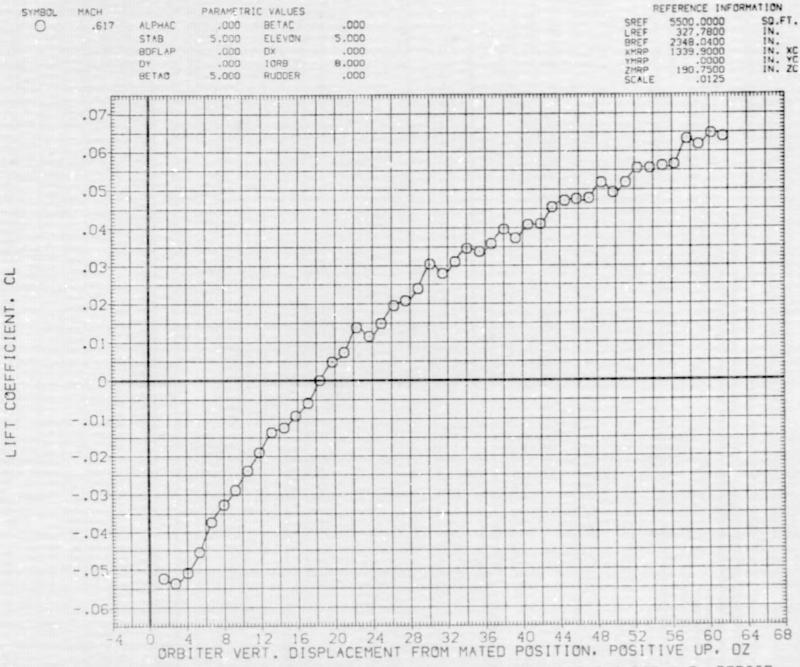




FIG.143 CARRIER DATA, ORB. PROXIMITY, ALPHAC=0, IORB=8.BETAC=0, BETAO=5, RFEO37

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE037)



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE037)

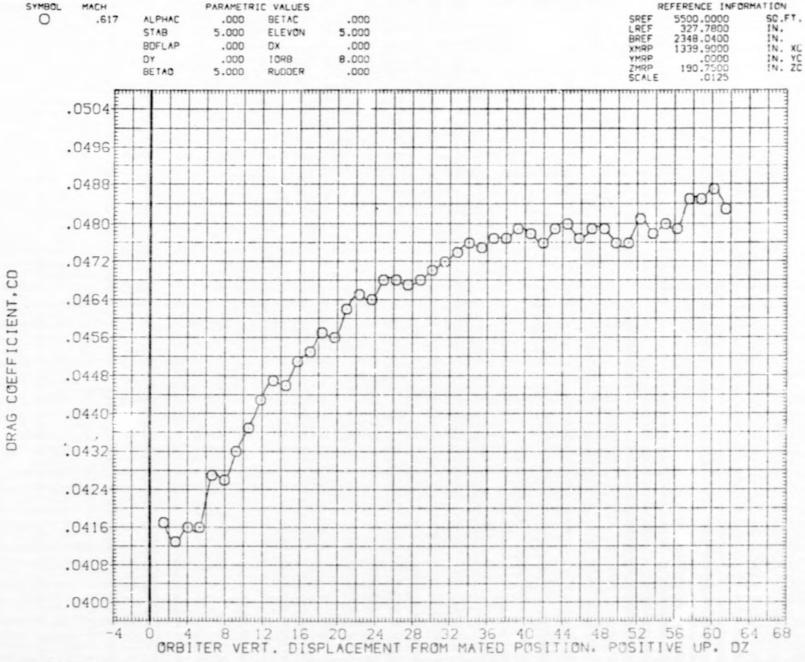


FIG.143 CARRIER DATA, ORB. PROXIMITY, ALPHAC=0, IORB=8, BETAC=0, BETAO=5, RFEO37

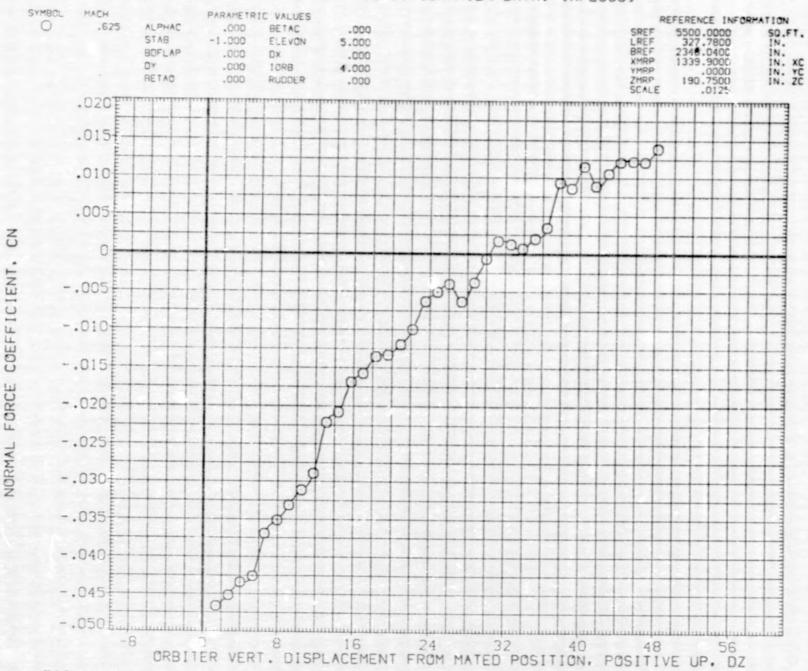


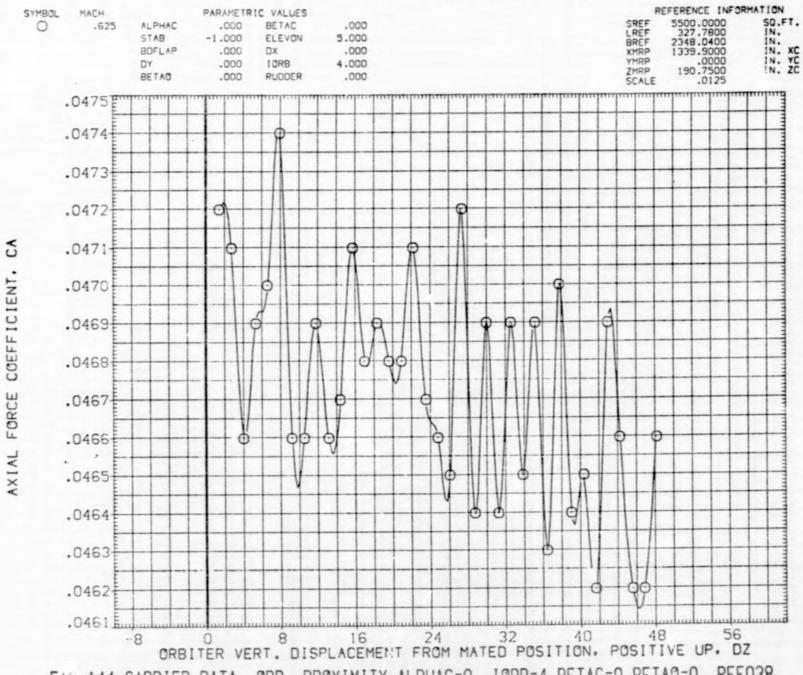




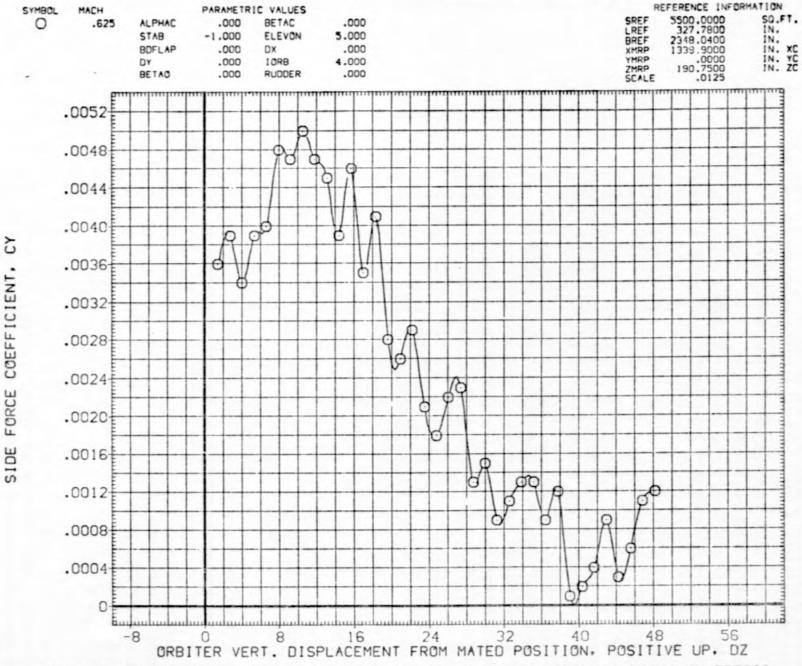
FIG.144 CARRIER DATA, ORB. PROXIMITY, ALPHAC=O, IGRB=4, BETAC=0, BETAG=0, RFE038



0

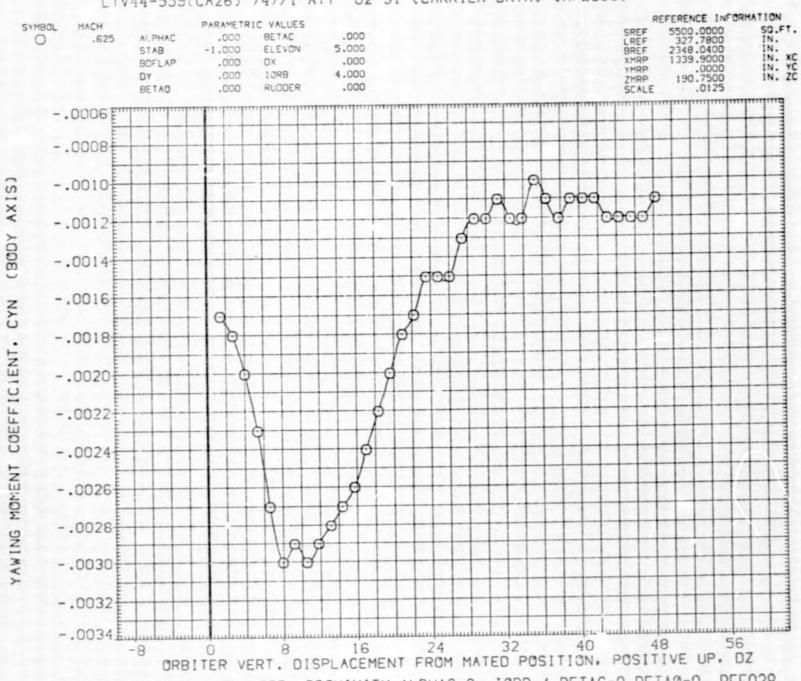


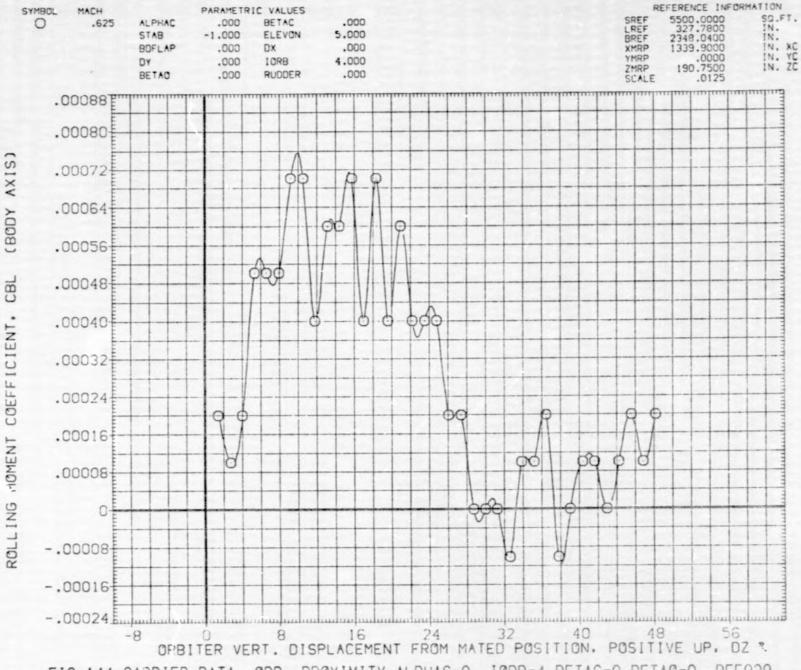
LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE038)

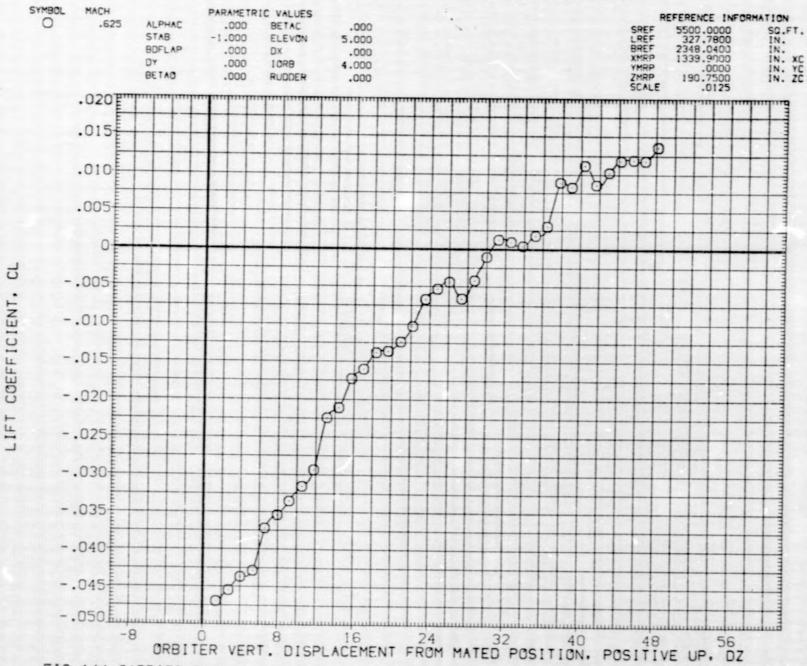




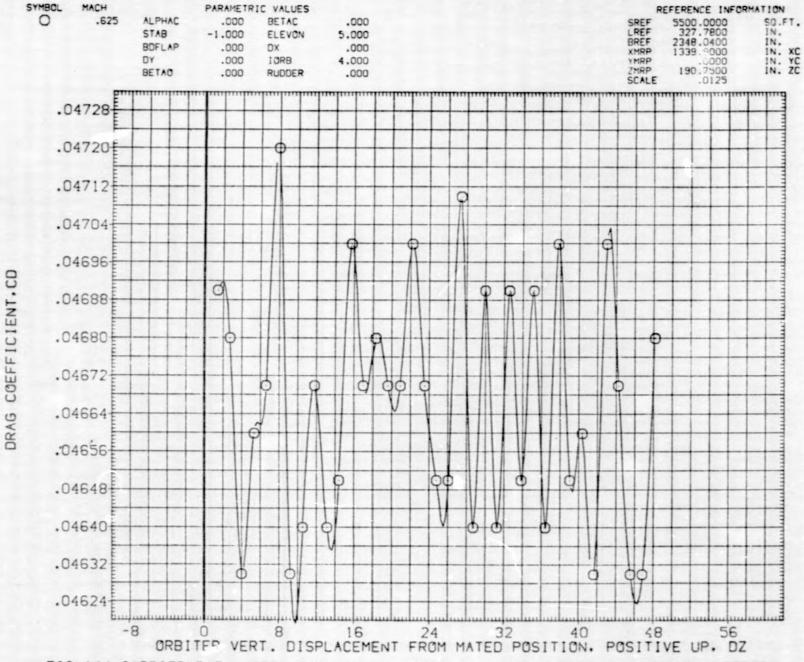
0



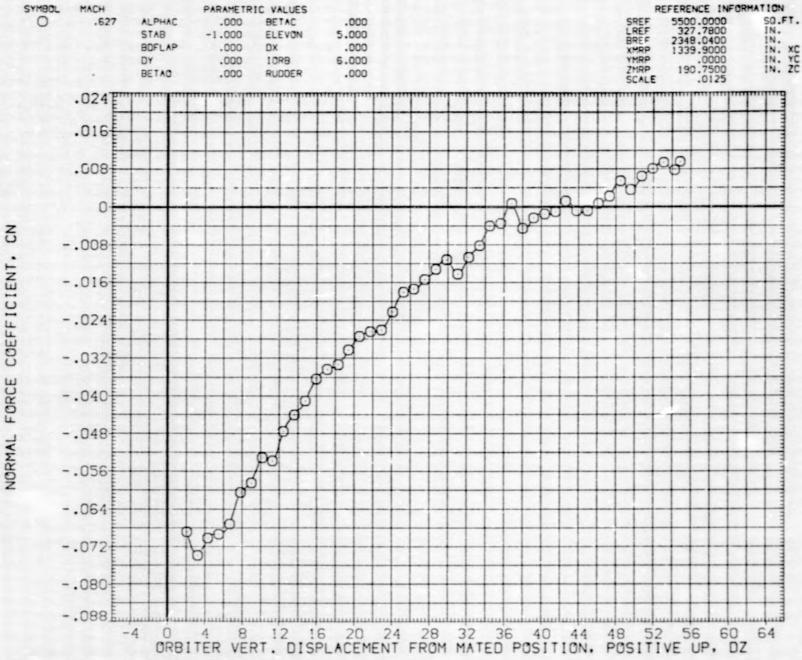




LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE038)







LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE039)

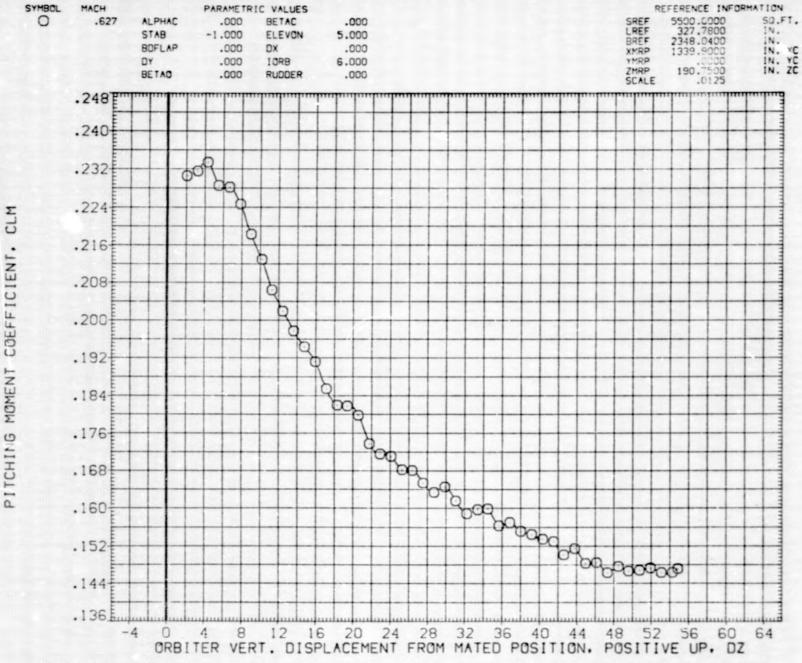
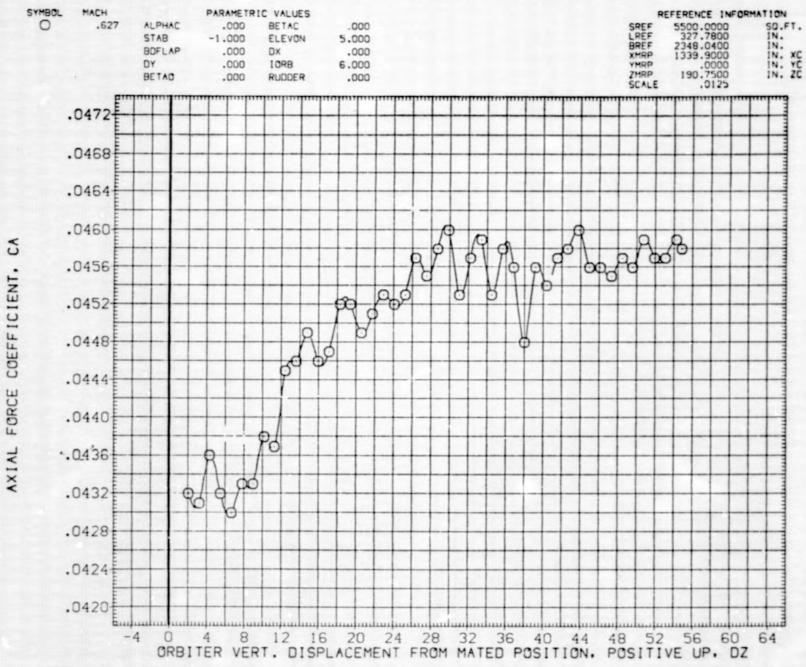
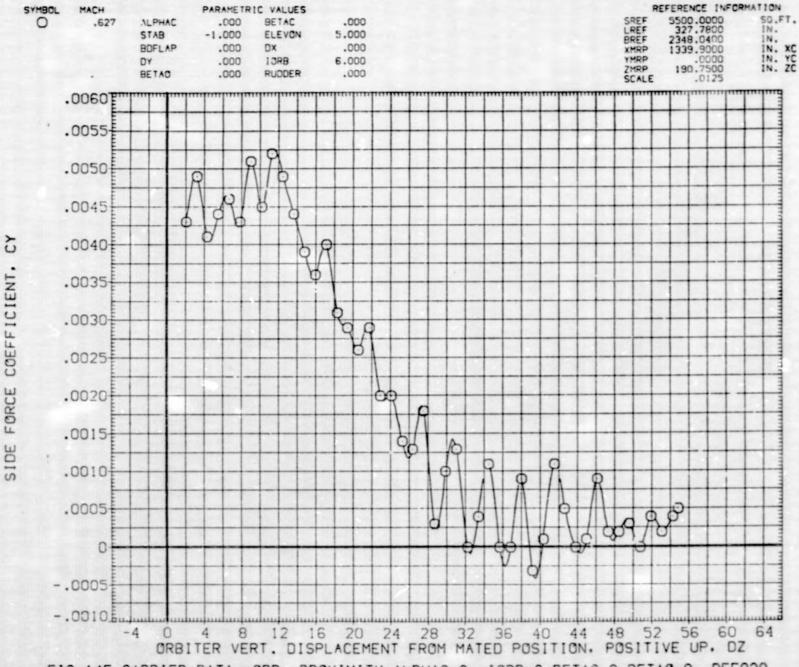
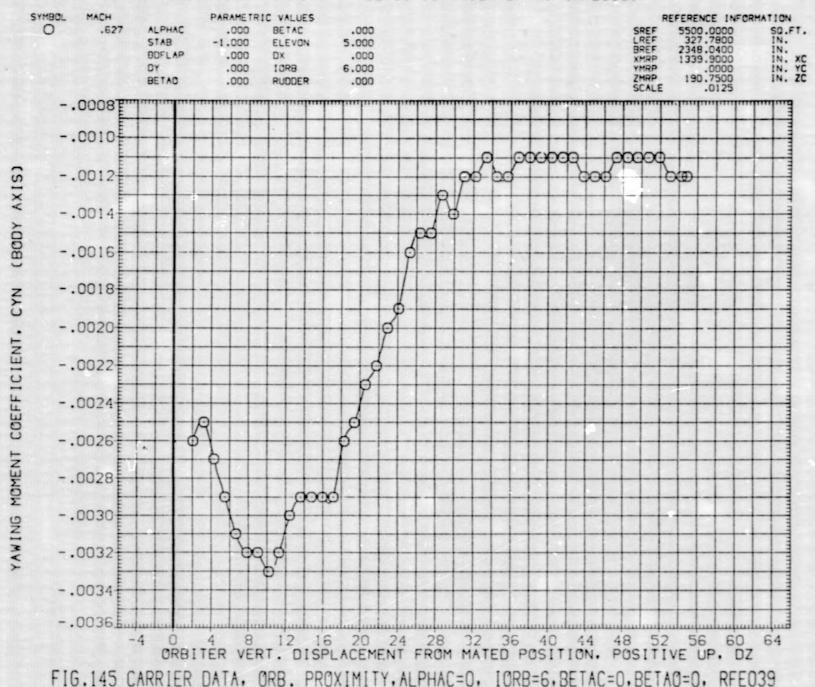


FIG.145 CARRIER DATA, ORB. PROXIMITY, ALPHAC=0, IORB=6, BETAC=0, BETAO=0, RFE039



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE039)





LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE039)

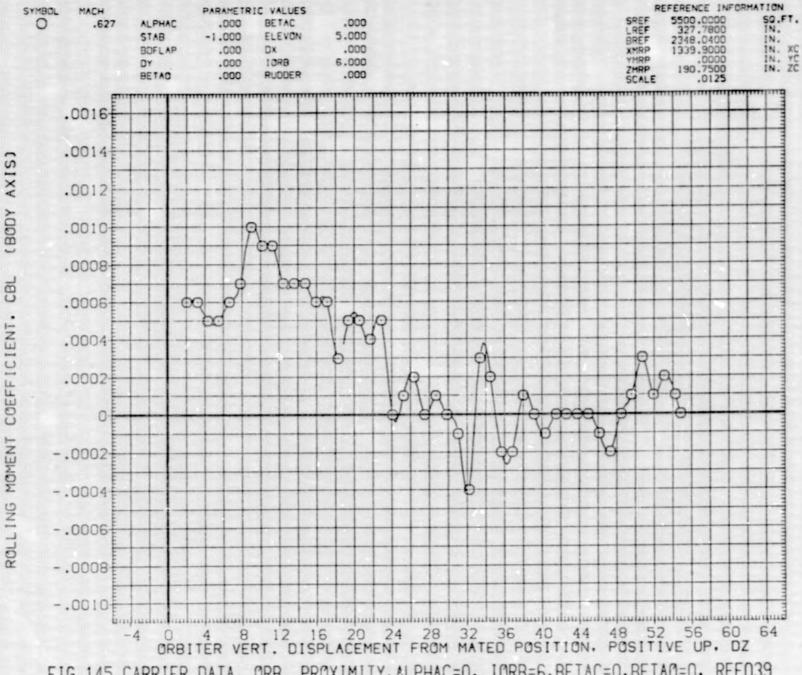
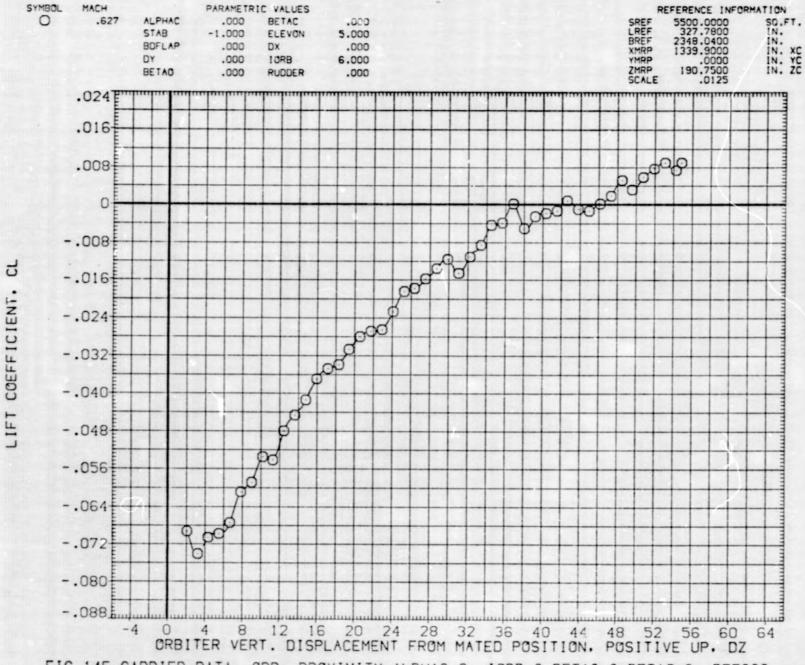


FIG.145 CARRIER DATA, ORB. PROXIMITY, ALPHAC=0, IORB=6.BETAC=0, BETAO=0, RFE039



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE039)

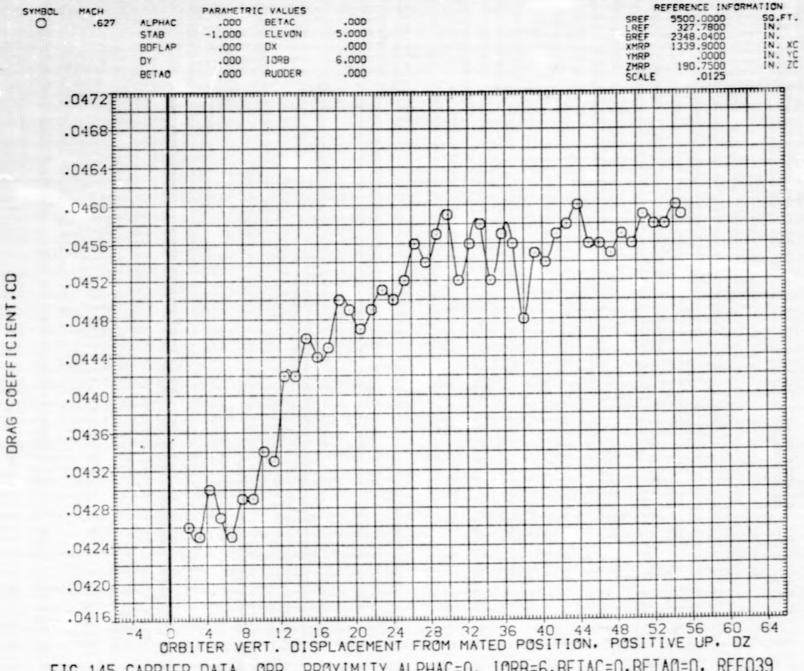
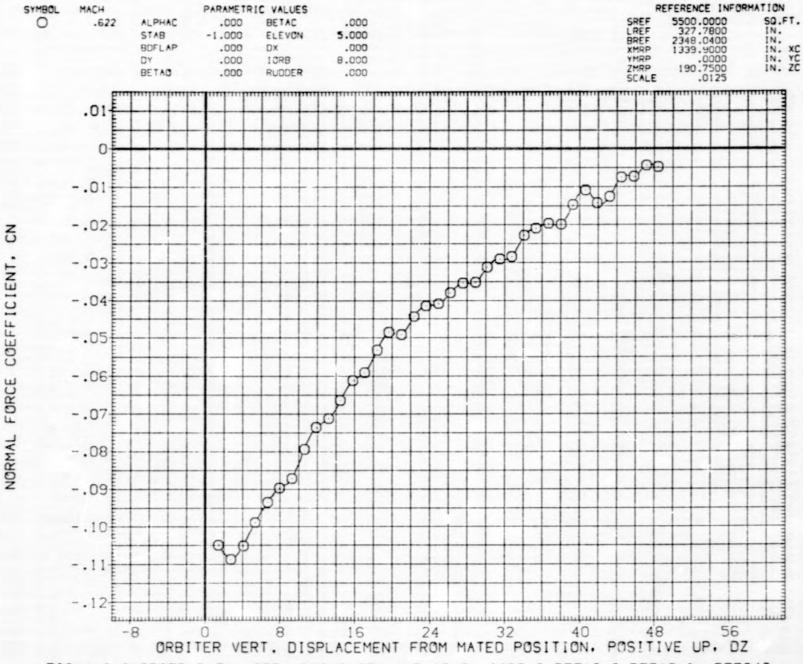


FIG.145 CARRIER DATA, ORB. PROXIMITY, ALPHAC=0, IORB=6, BETAC=0, BETAO=0, RFEO39

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE040)



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE040)

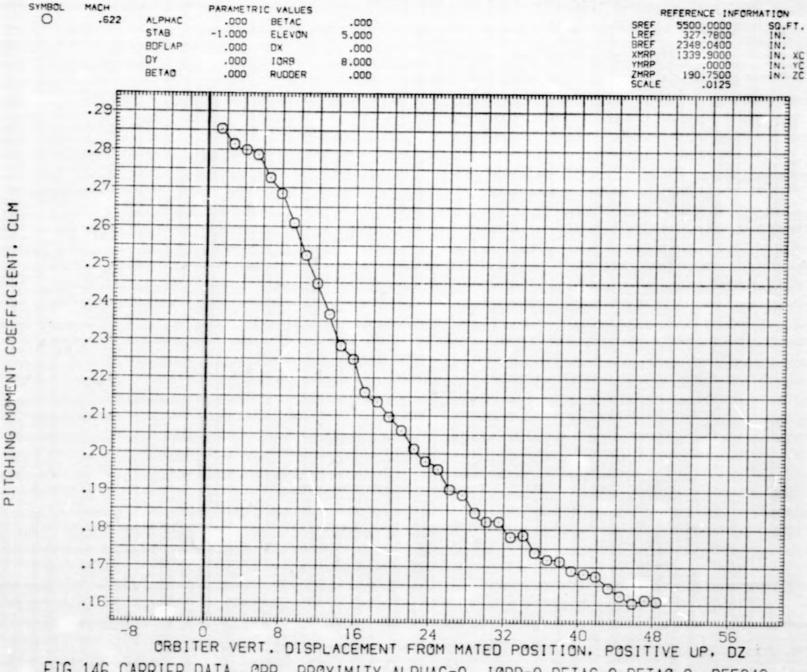
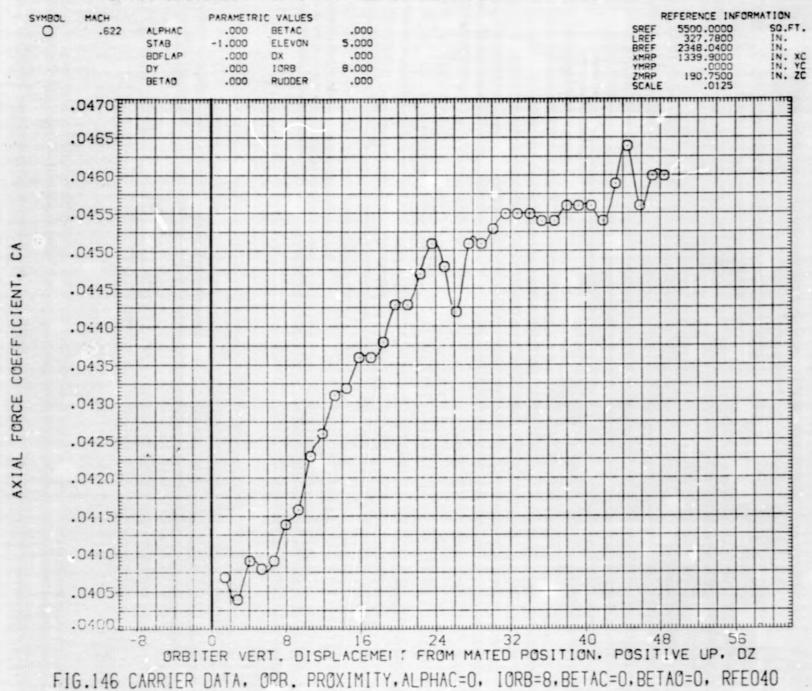
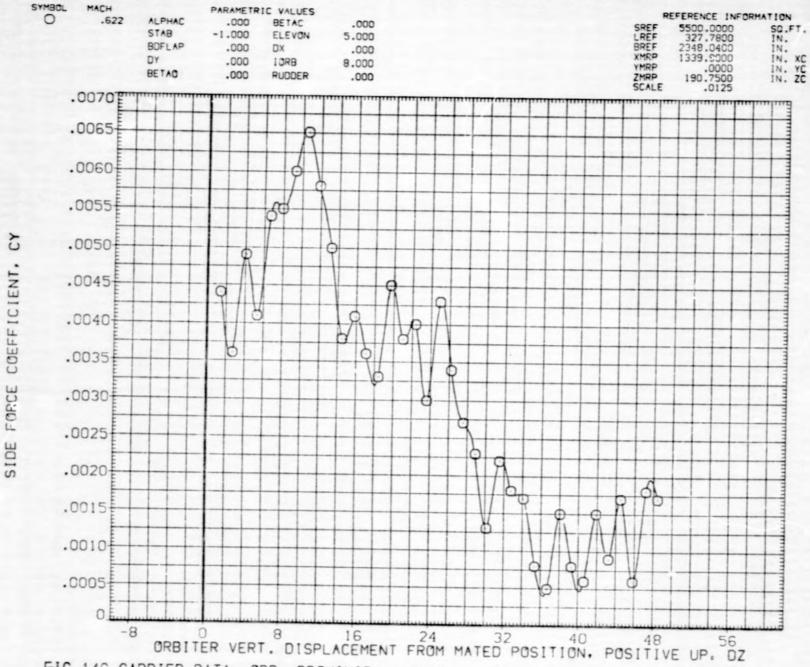


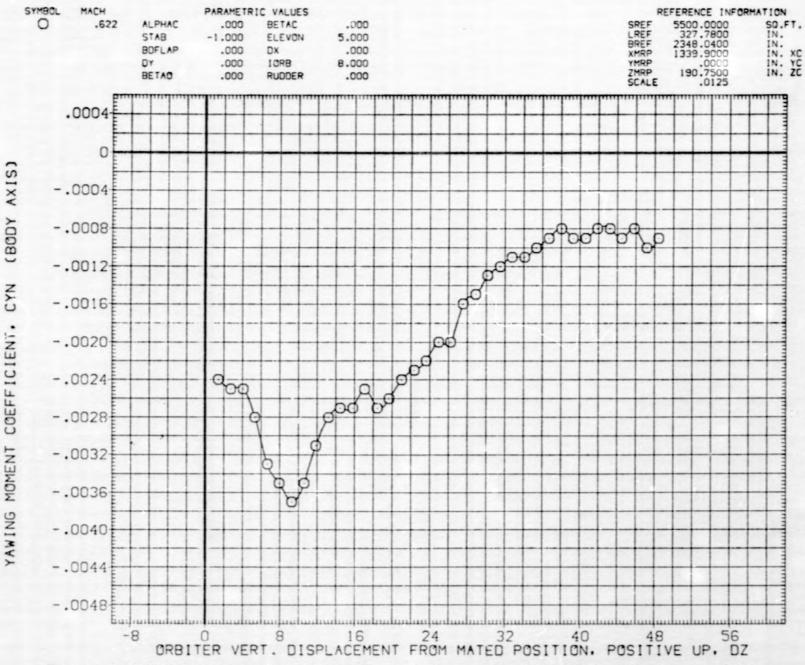
FIG.146 CARRIER DATA, ORB. PROXIMITY, ALPHAC=0, IORB=8, BETAC=0, BETAO=0, RFEO40



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE040)



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LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE040)

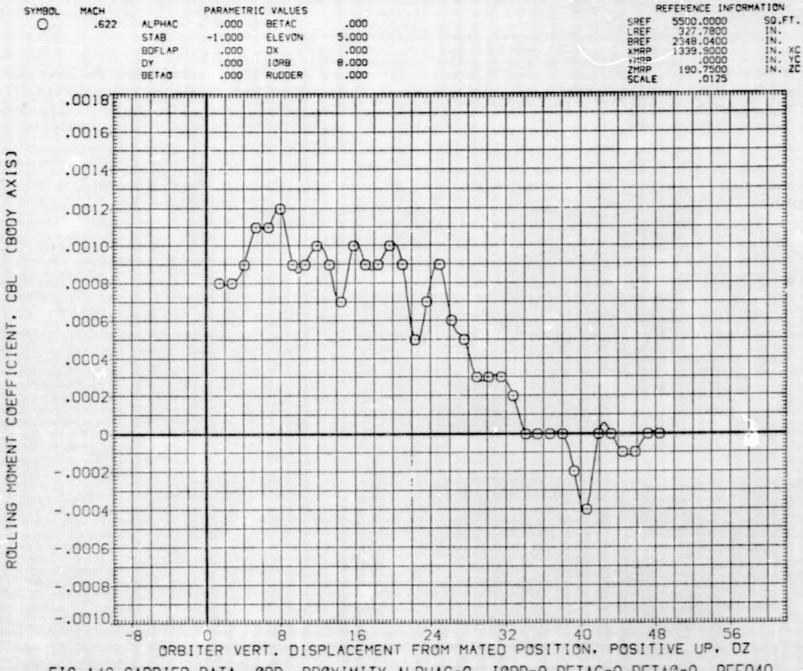
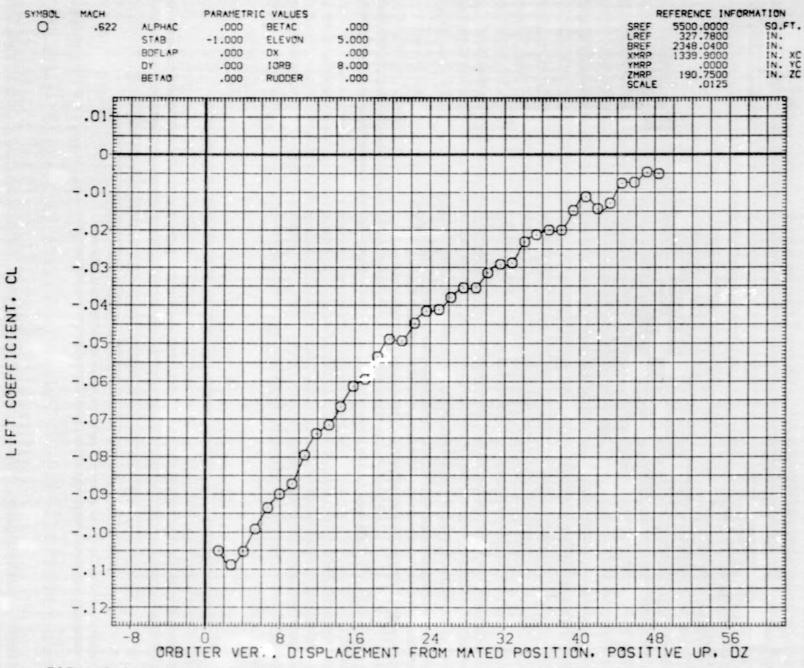


FIG.146 CARRIER DATA, ORB. PROXIMITY, ALPHAC=O, IORB=8, BETAC=0, BETAO=0, RFEO40

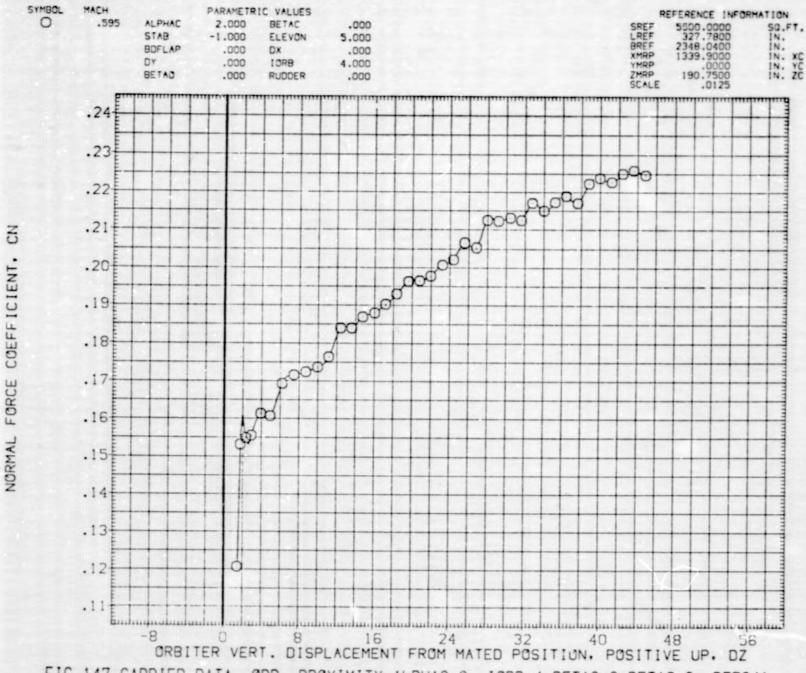
LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE040)



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE040)



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE041)



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE041)

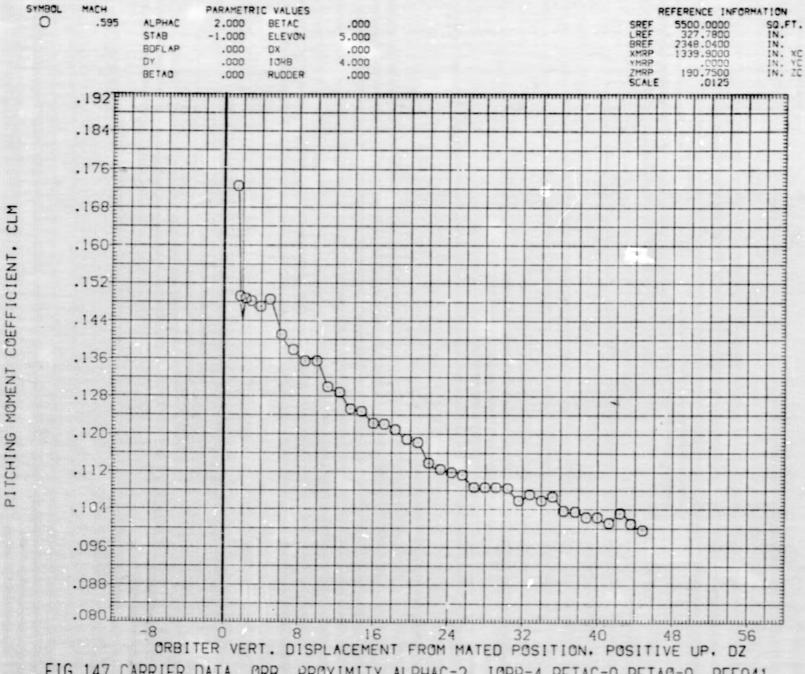
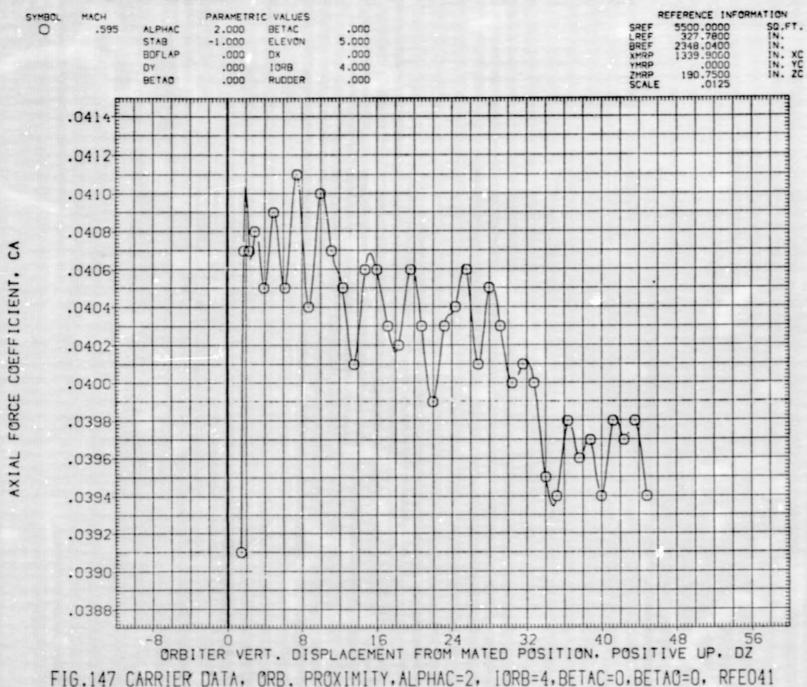


FIG.147 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=4, BETAC=0, BETAO=0, RFEO41



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE041)

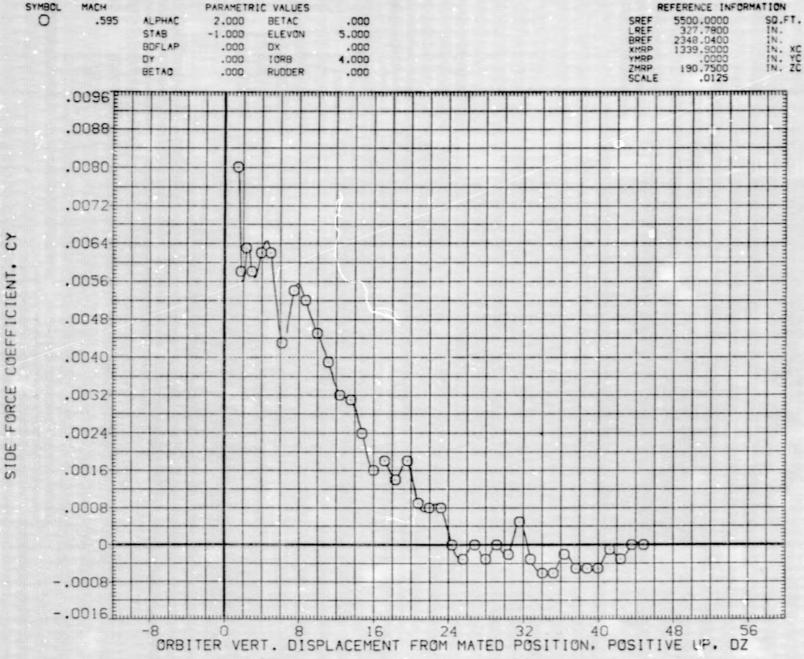
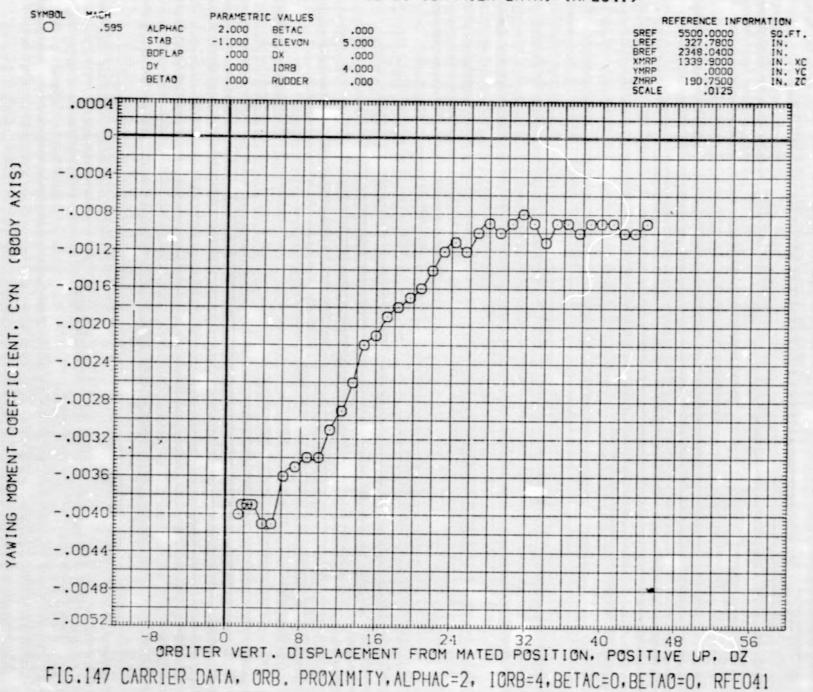
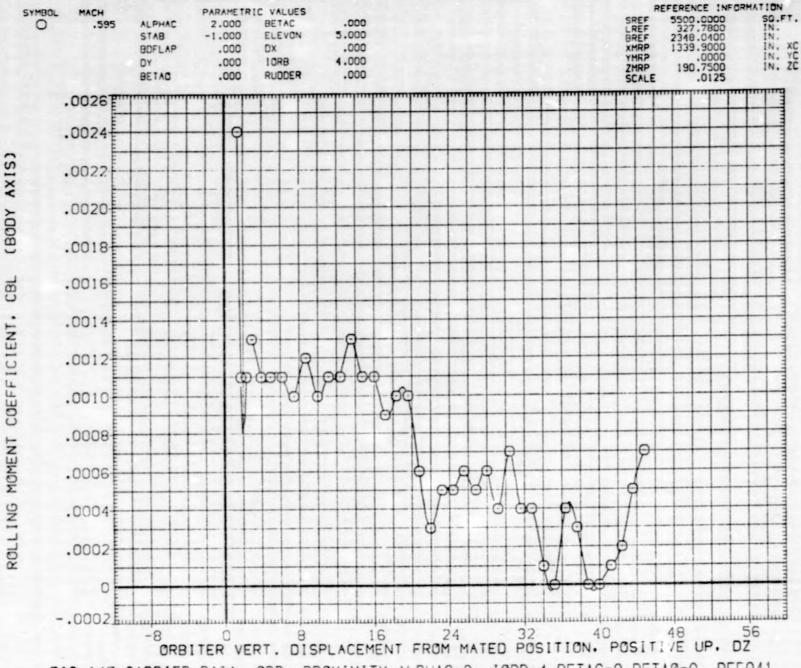


FIG.147 CARRIER DATA, ORB. PROXIMITY.ALPHAC=2, IORB=4,BETAC=0,BETAO=0, RFEO41

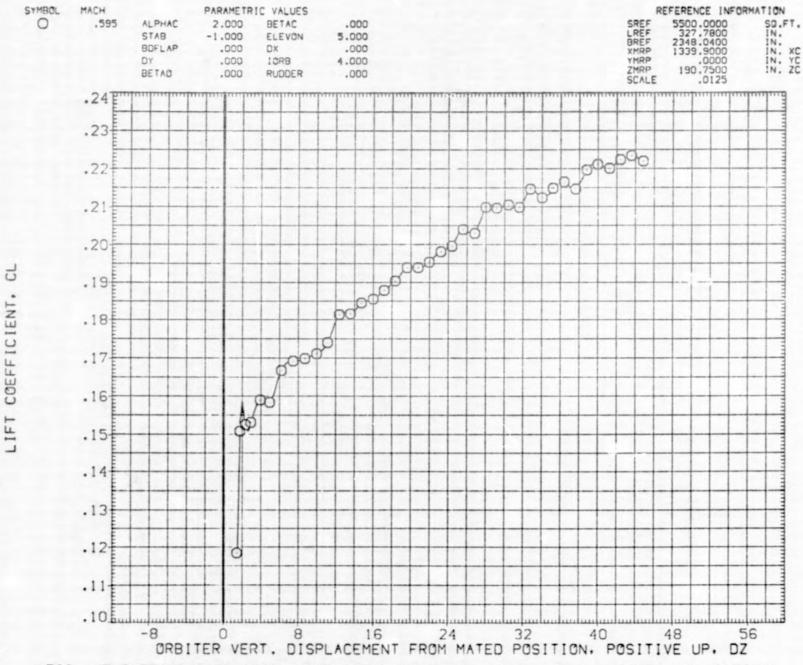
LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE041)



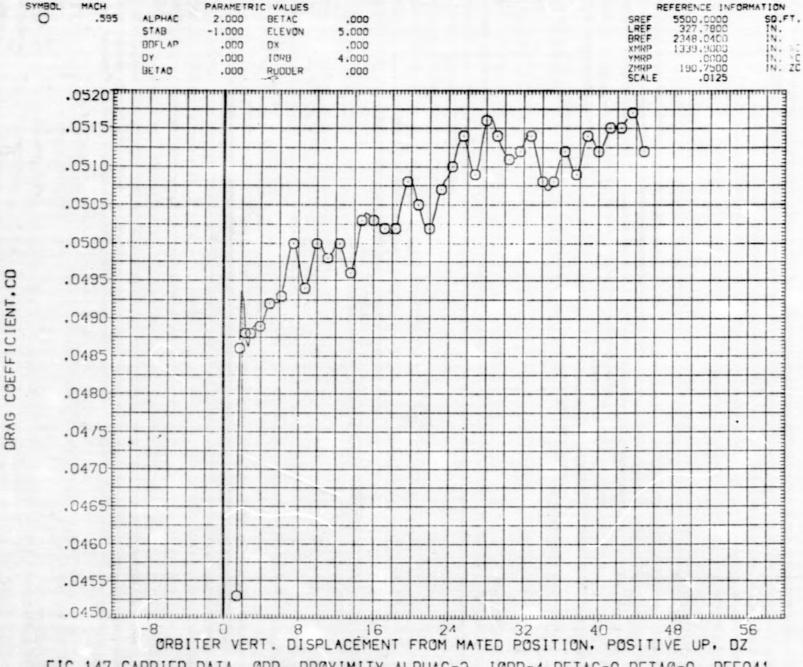
LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE041)



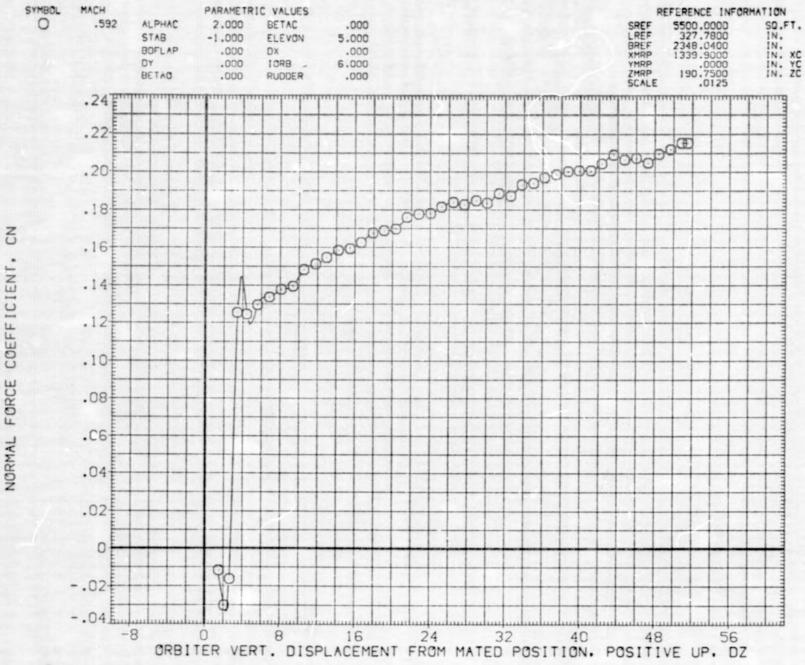
LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE041)



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE041)



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE042)



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE042)

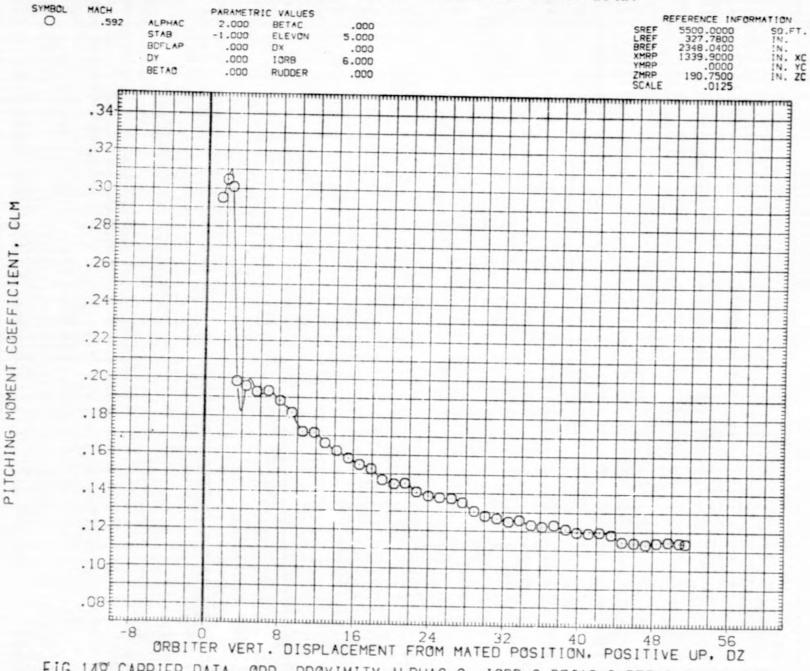
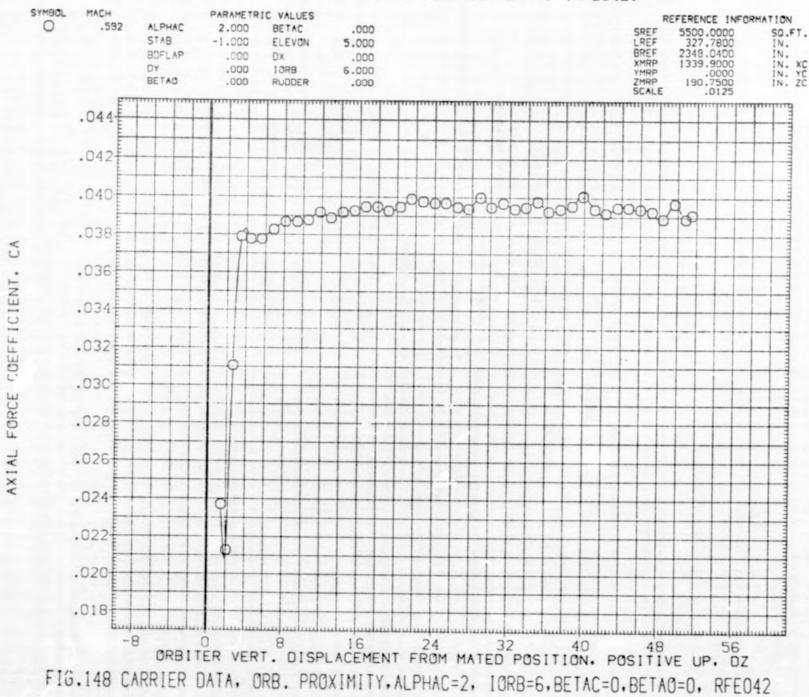


FIG. 148 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, RFEO42

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE042)



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE042)

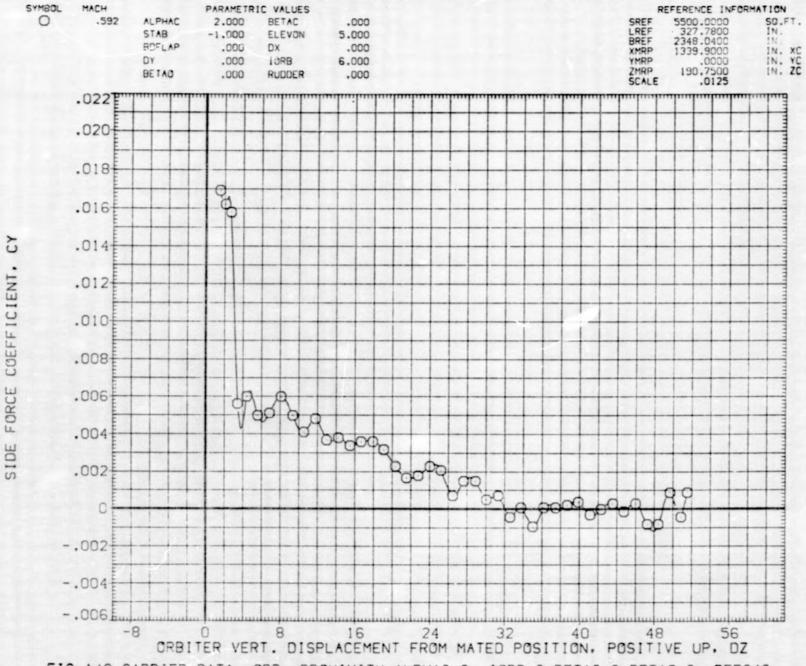
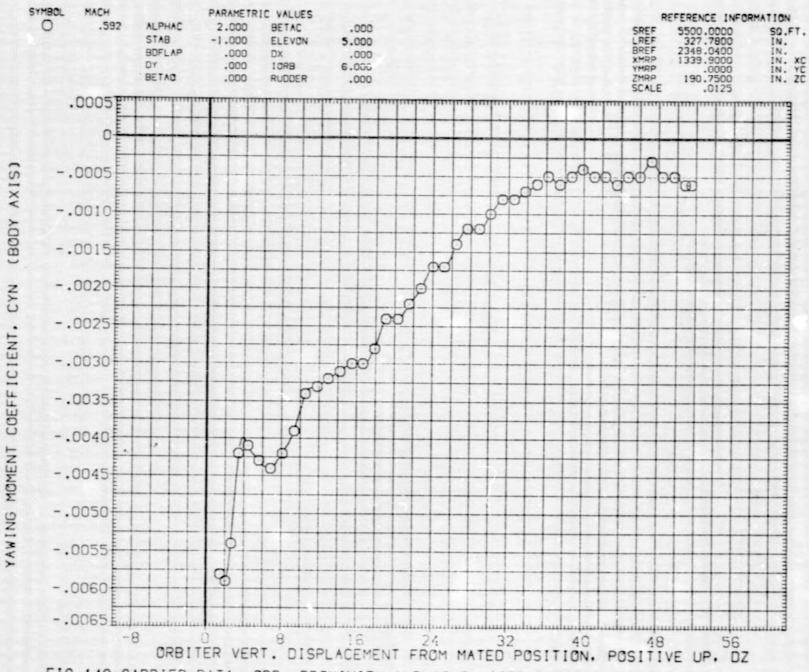
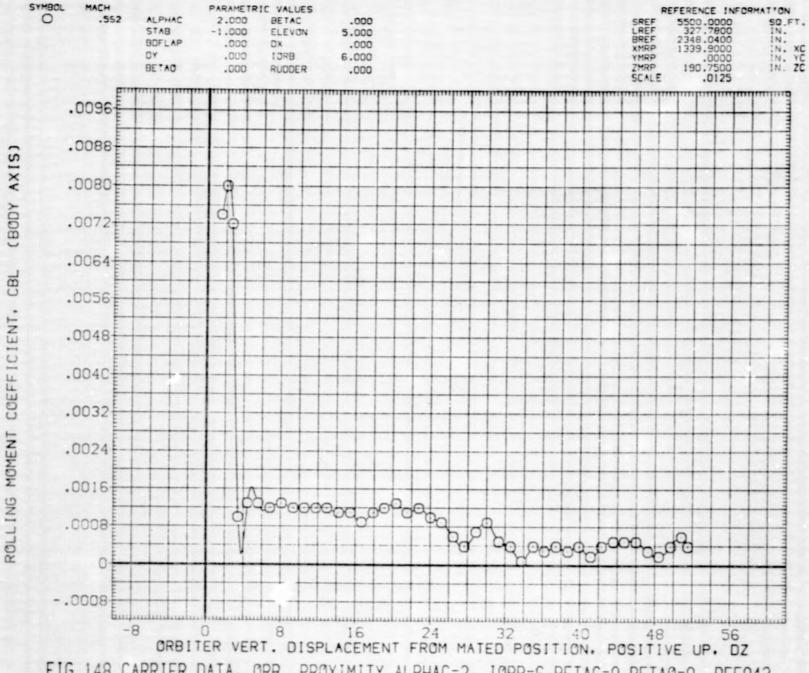


FIG.148 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, RFEO42

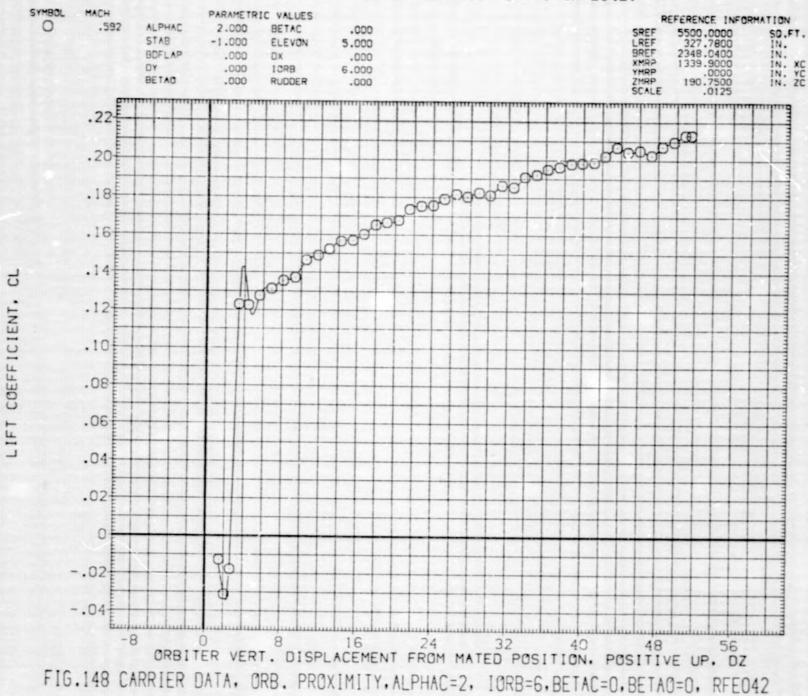
LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE042)



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE042)



LTV44-559(CA26) 747/1 ATY 02 SI (CARRIER DATA) (RFE042)



RB=6.BETAC=0.BETAO=0. RFEO42
PAGE 1159

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE042)

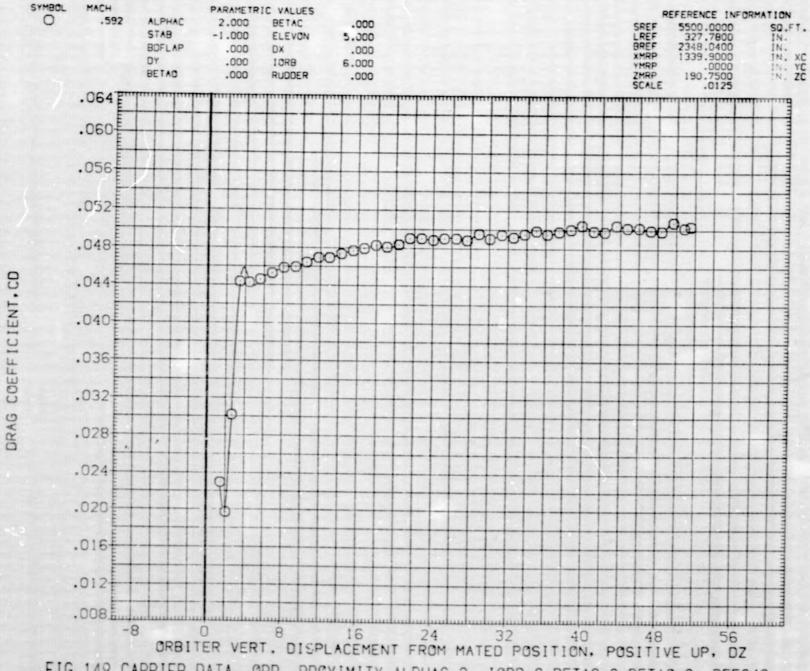
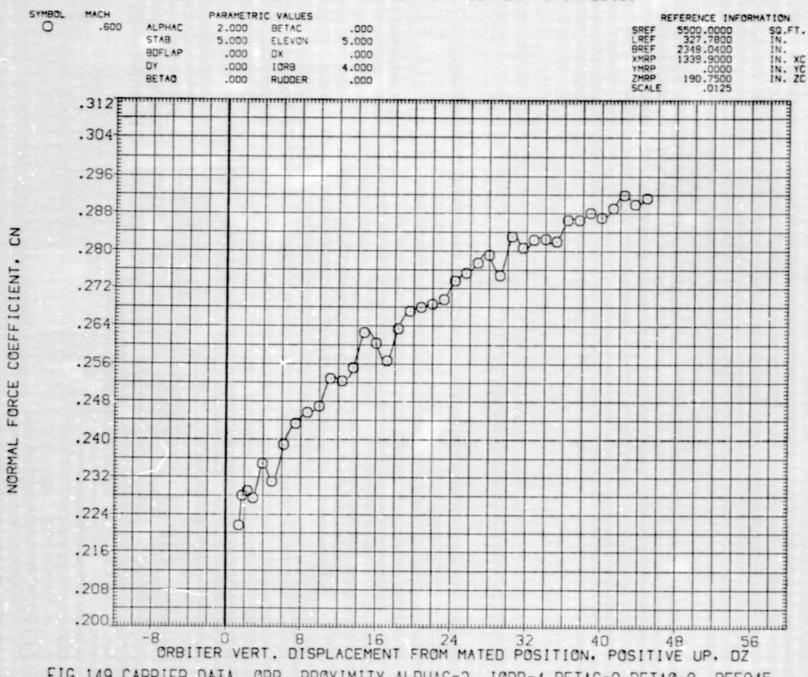
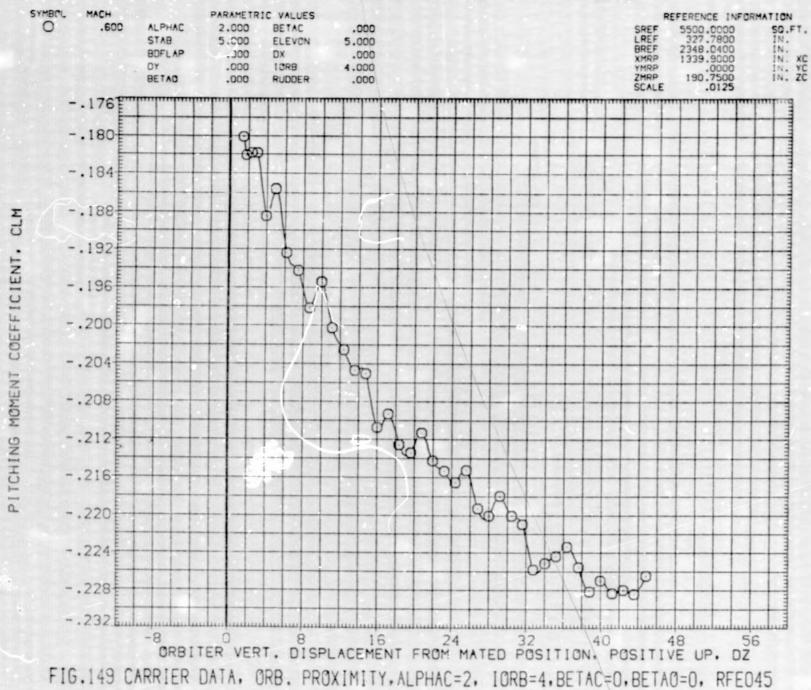


FIG.148 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, RFEO42

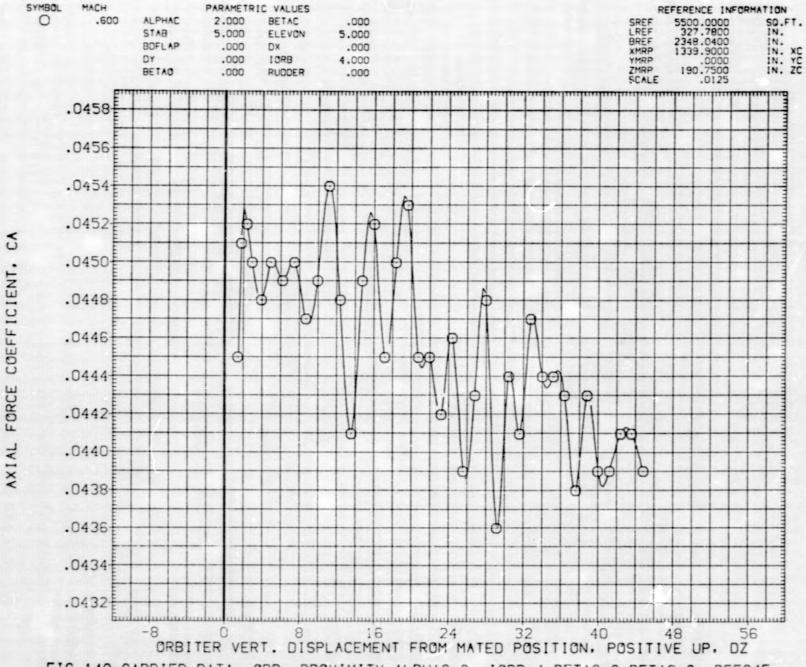
LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE045)



LTV44-559(CA26) 747/1 ATY 02 SI (CARRIER DATA) (RFE045)



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE045)



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE045)

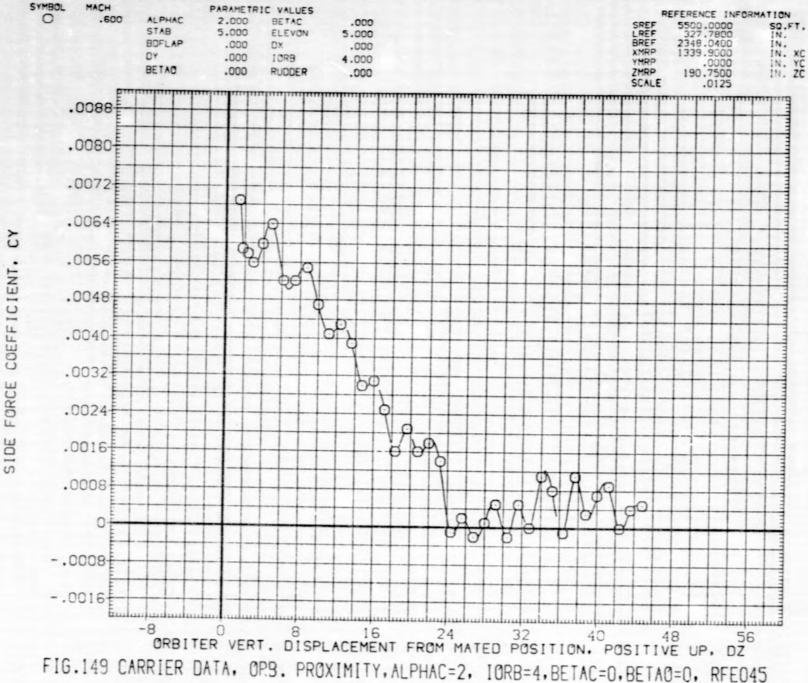
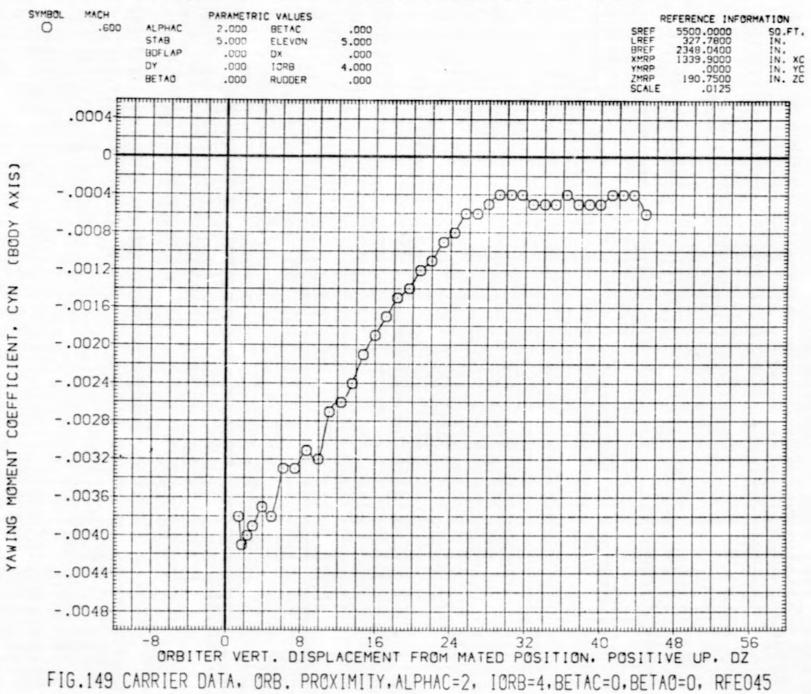


FIG.149 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=4, BETAC=0, BETAO=0, RFEO45



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE045)



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE045)

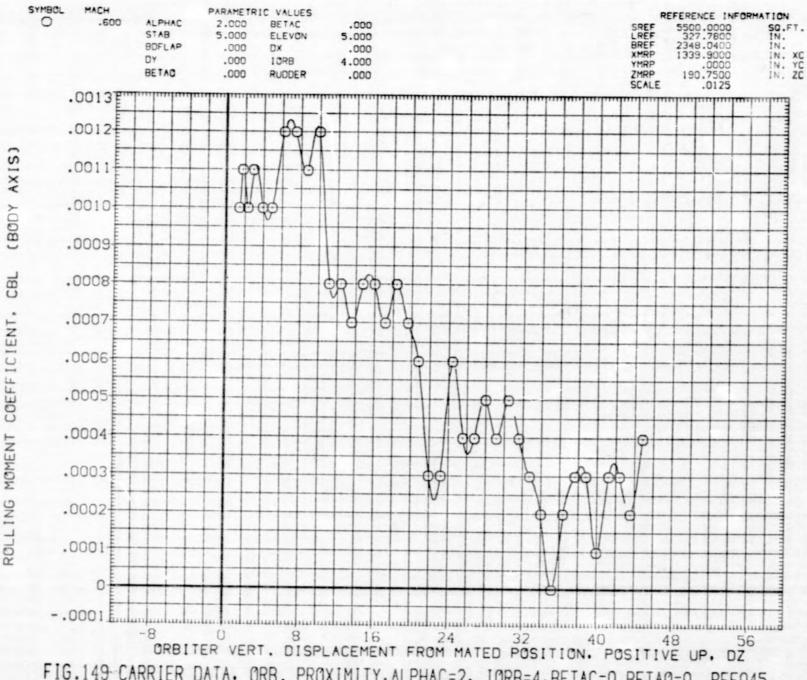
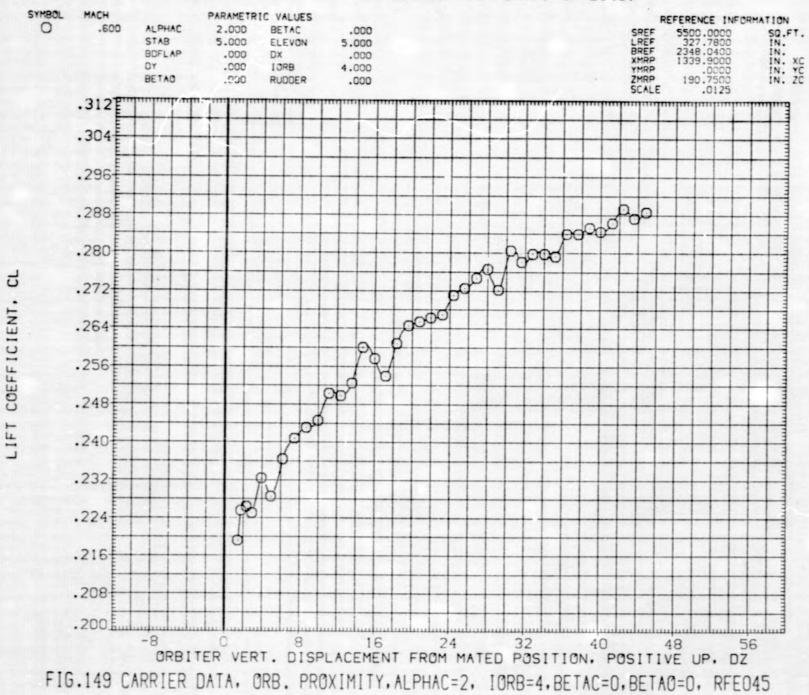


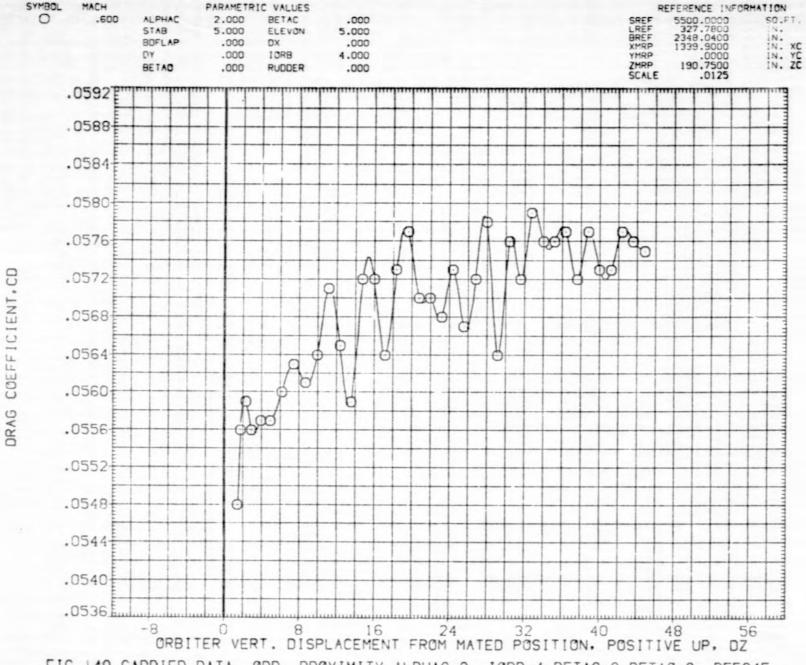
FIG.149 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=4, BETAC=0, BETAO=0, RFEO45

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE045)

0

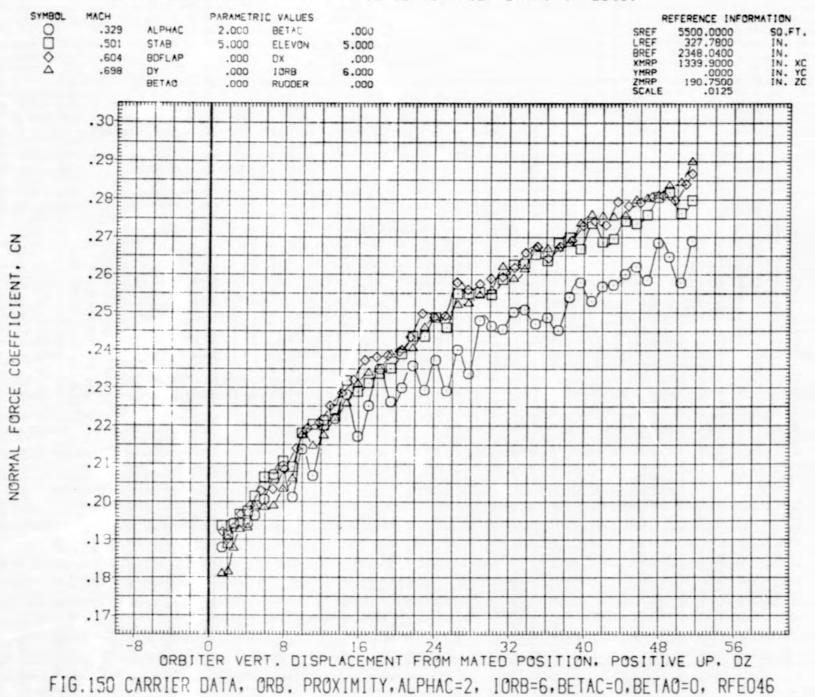


LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE045)





LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE046)



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE046)

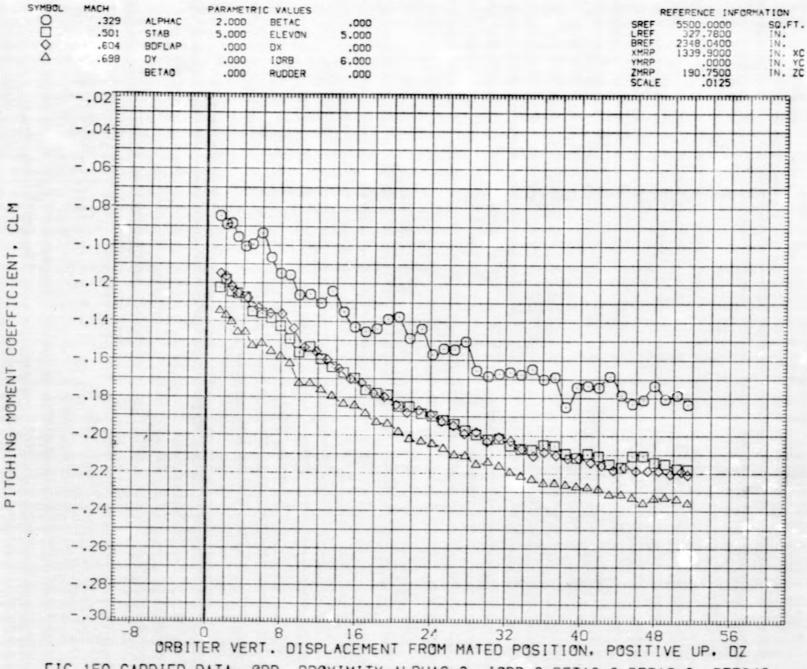
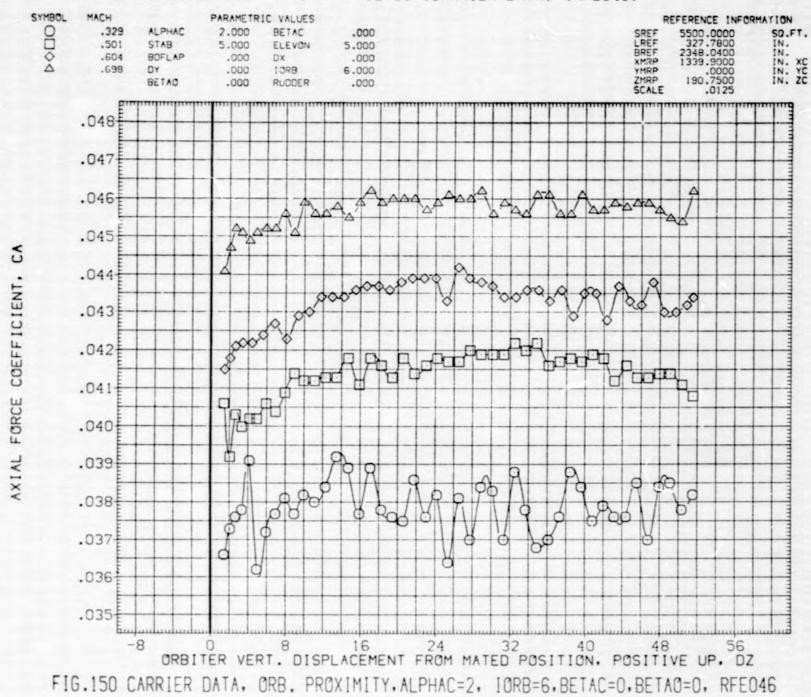


FIG.150 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, RFEO46

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE046)



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE046)

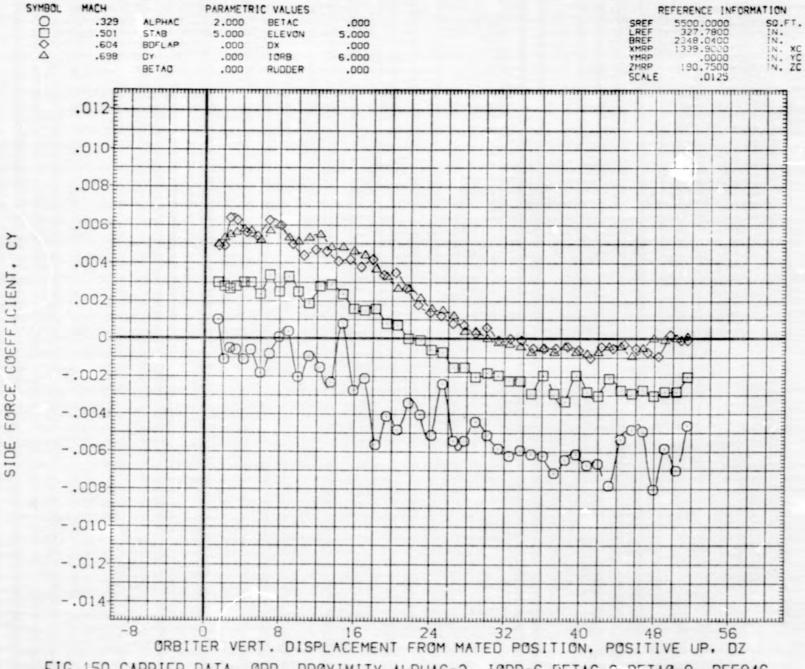
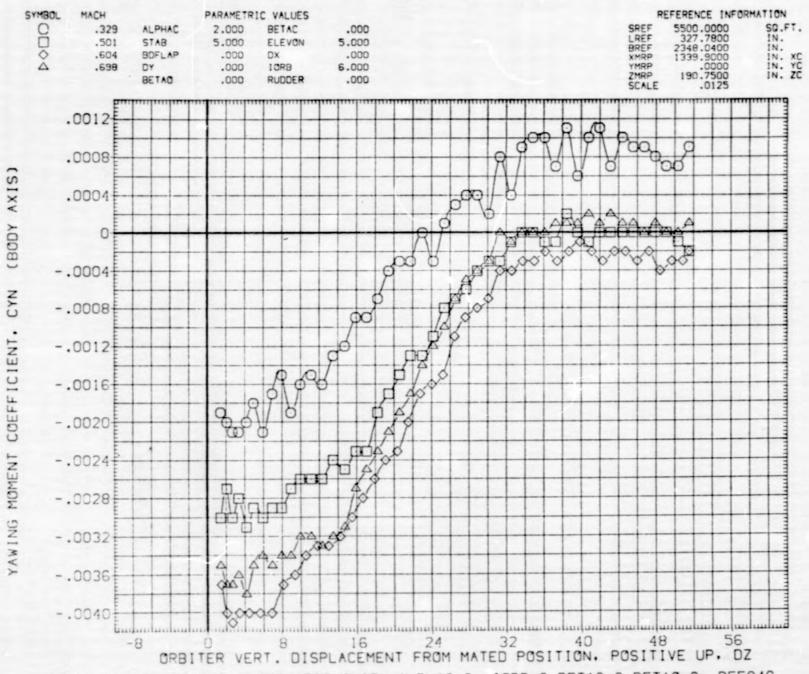


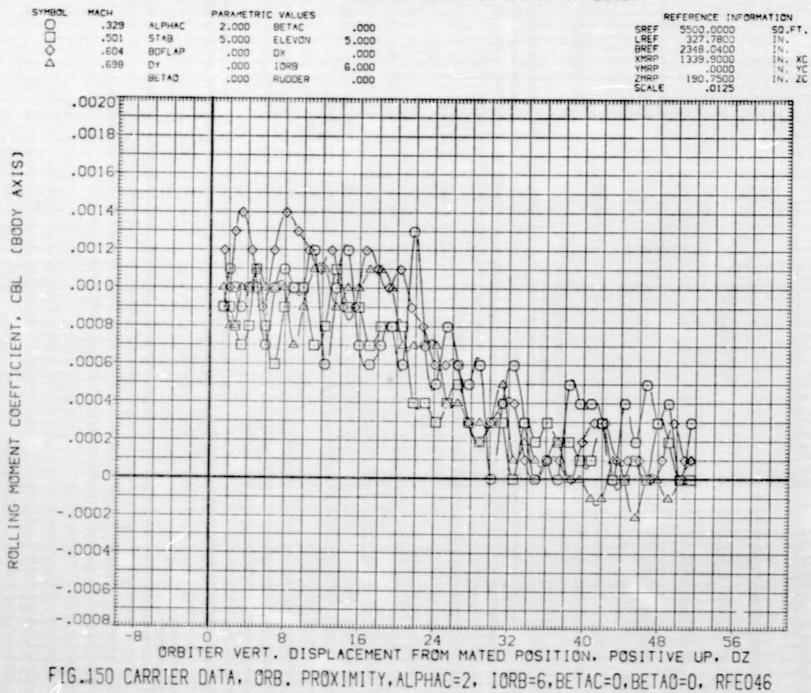
FIG. 150 CARRIER DATA, ORB, PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, RFE046

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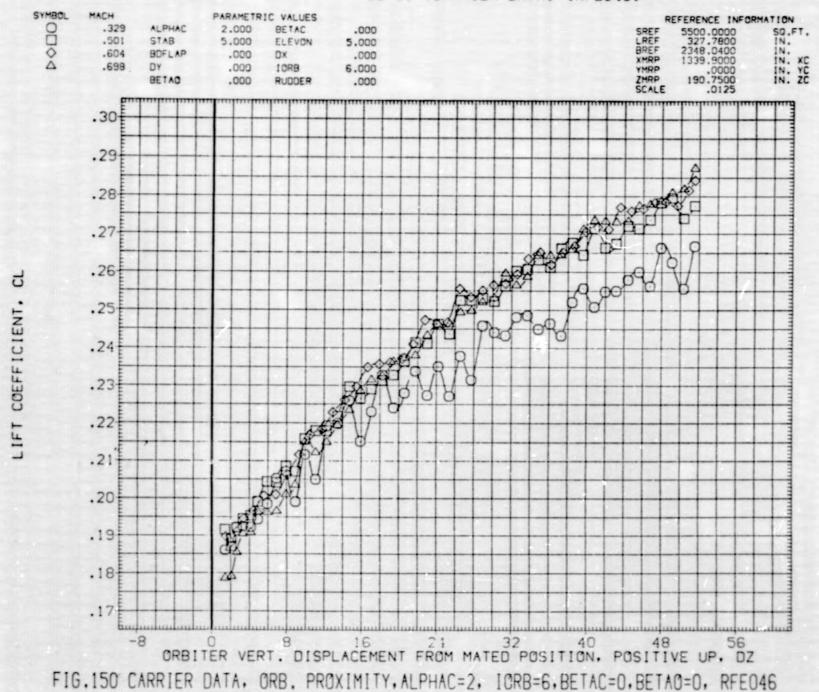
LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE046)



LTV44-559(CA26) 747/1 ATY 02 SI (CARRIER DATA) (RFE046)



LTV44-559(CA26) 747/1 ATY 02 SI (CARRIER DATA) (RFE046)



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE046)

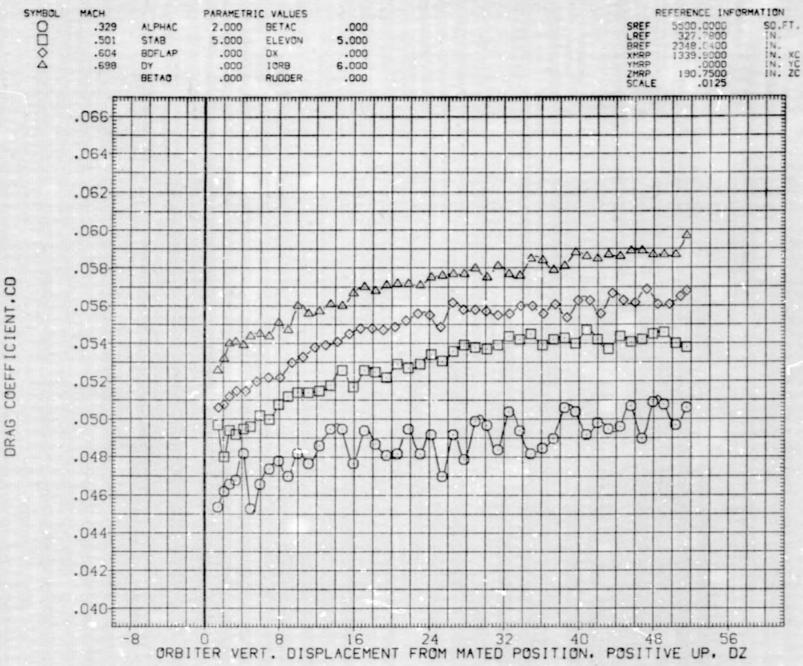
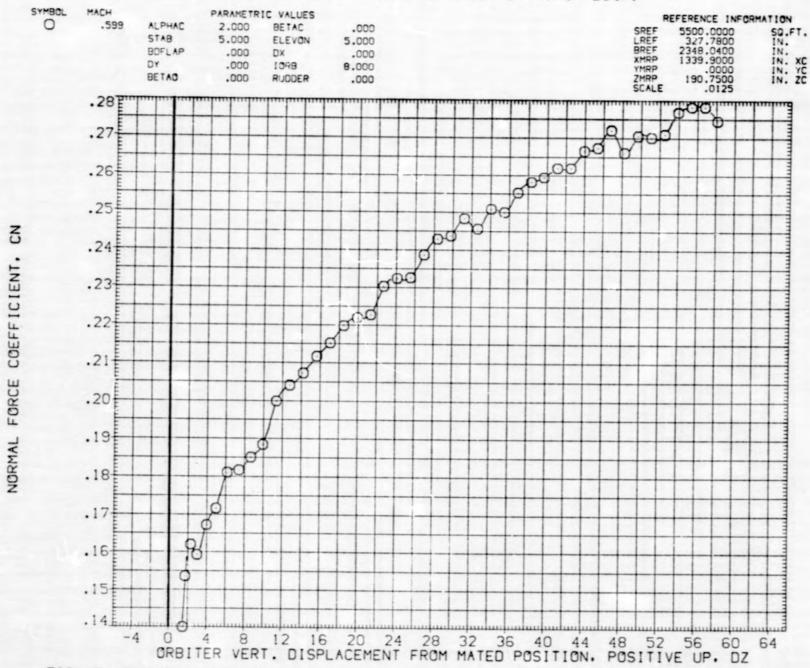


FIG. 150 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, RFEO46

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LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE047)



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE047)

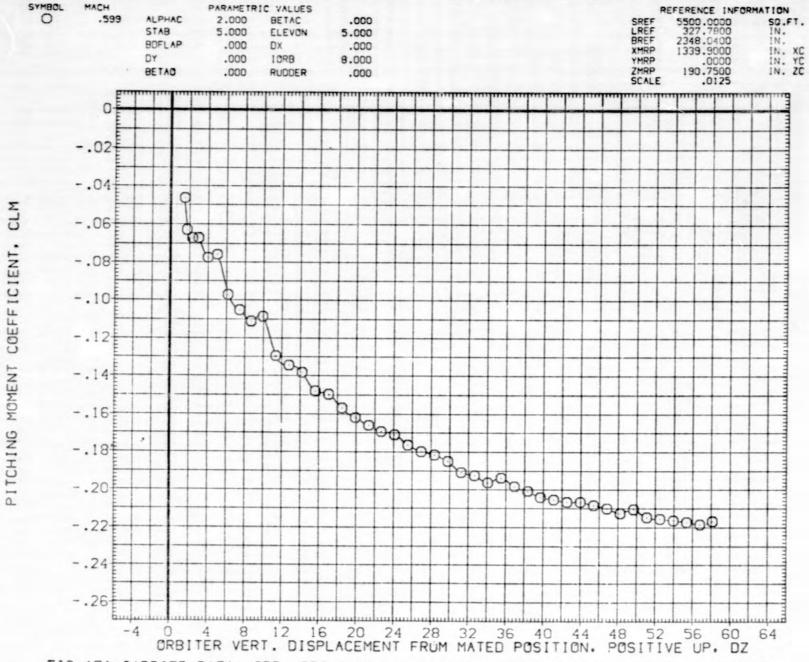
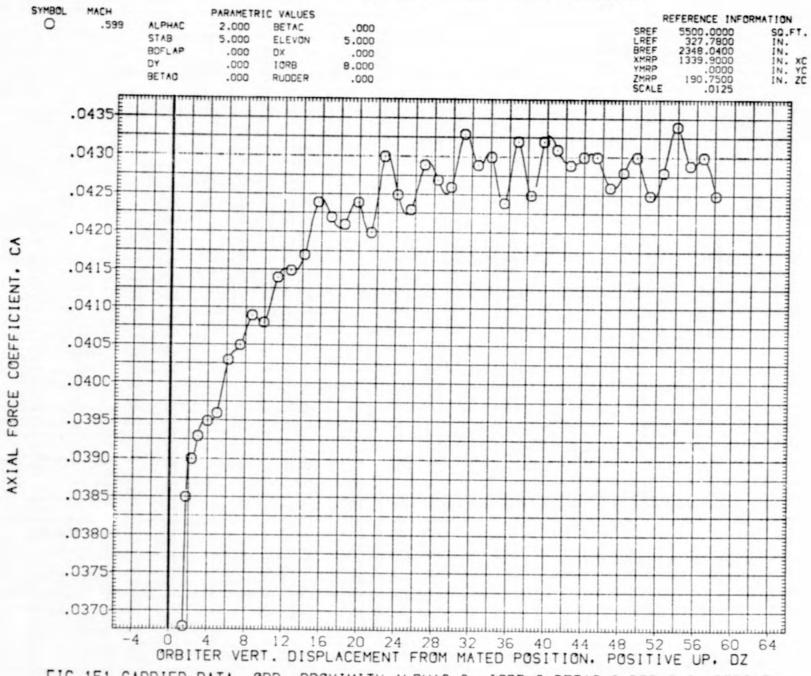
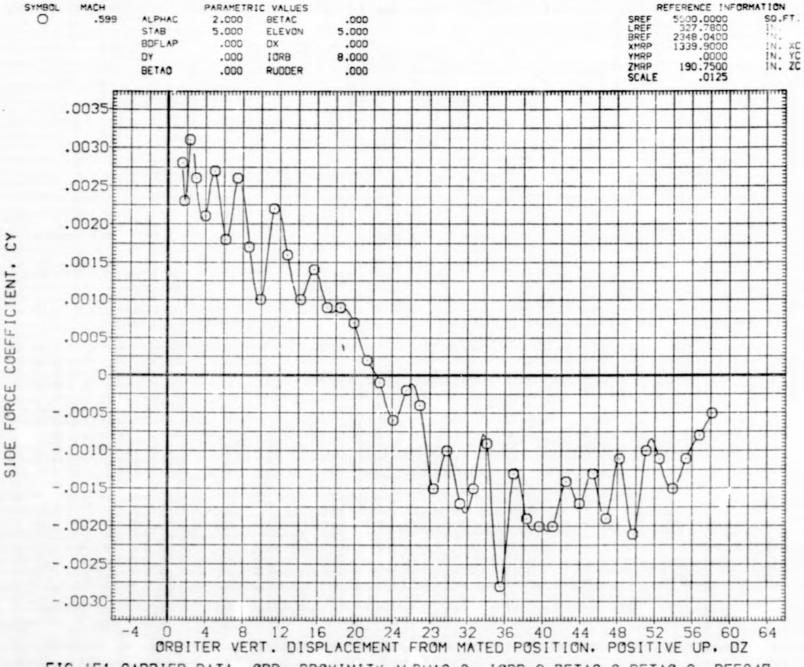


FIG.151 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=8, BETAC=0, BETAO=0, RFEO47

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE047)



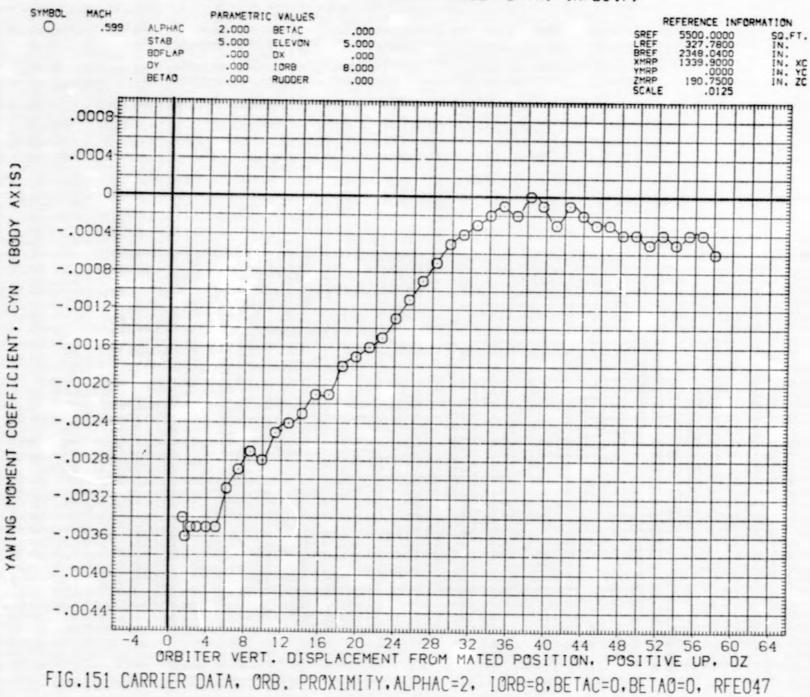
LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE047)





LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE047)

0



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE047)

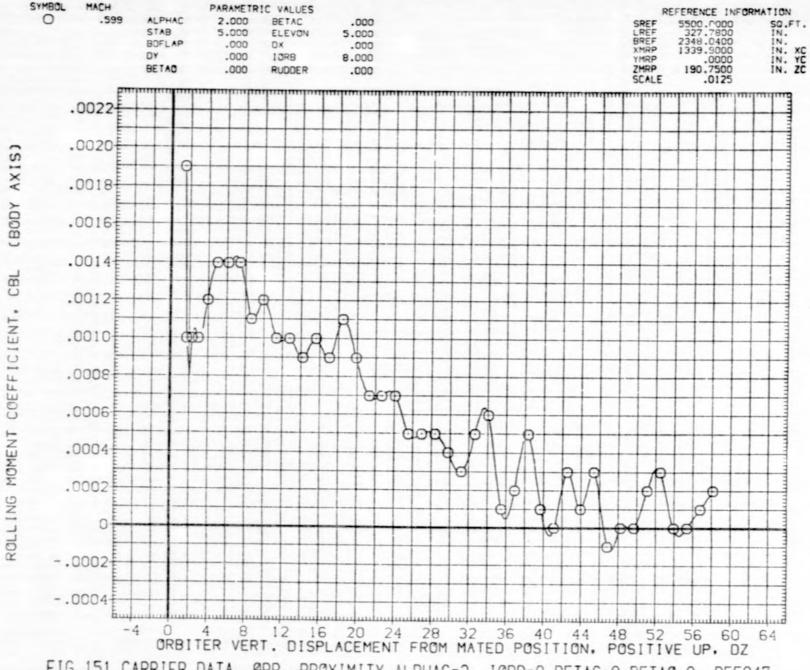


FIG.151 CARRIER DATA, ØRB. PROXIMITY, ALPHAC=2, IORB=8, BETAC=0, BETAO=0, RFEO47

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE047)

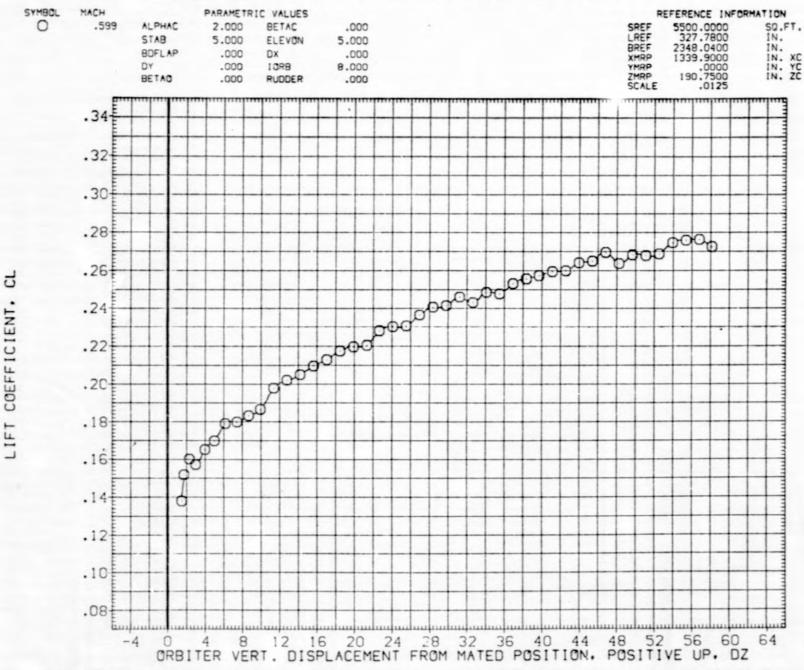
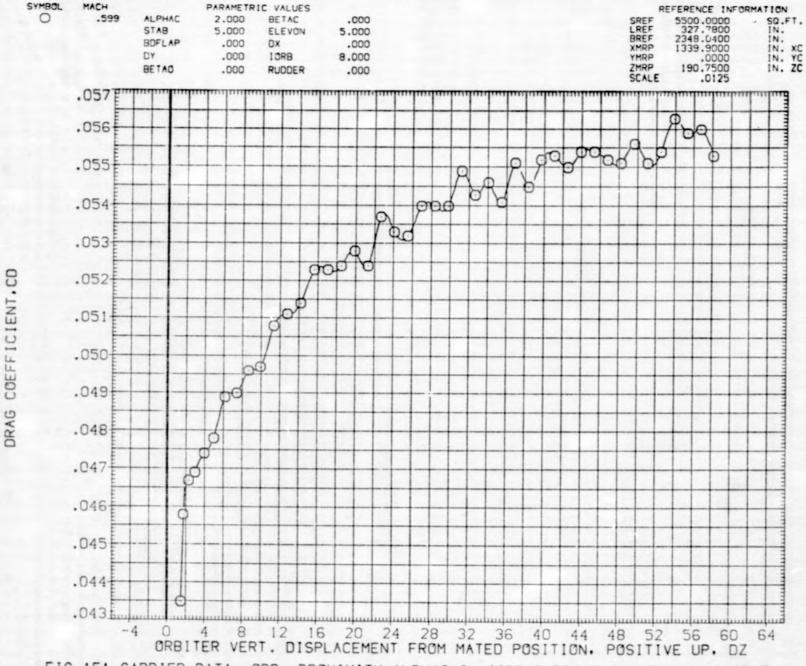
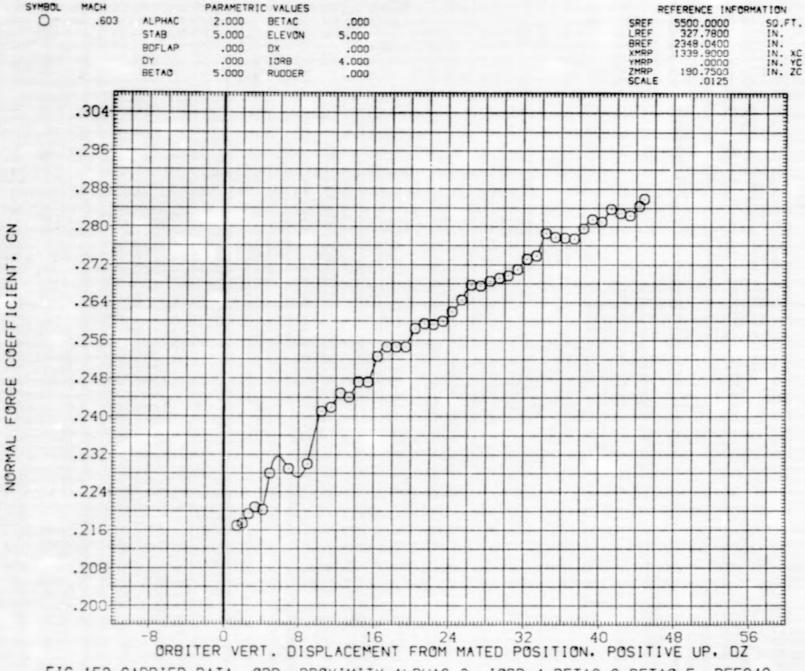


FIG.151 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, 10RB=8, BETAC=0, BETAO=0, RFEO47

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE047)



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE048)



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE048)

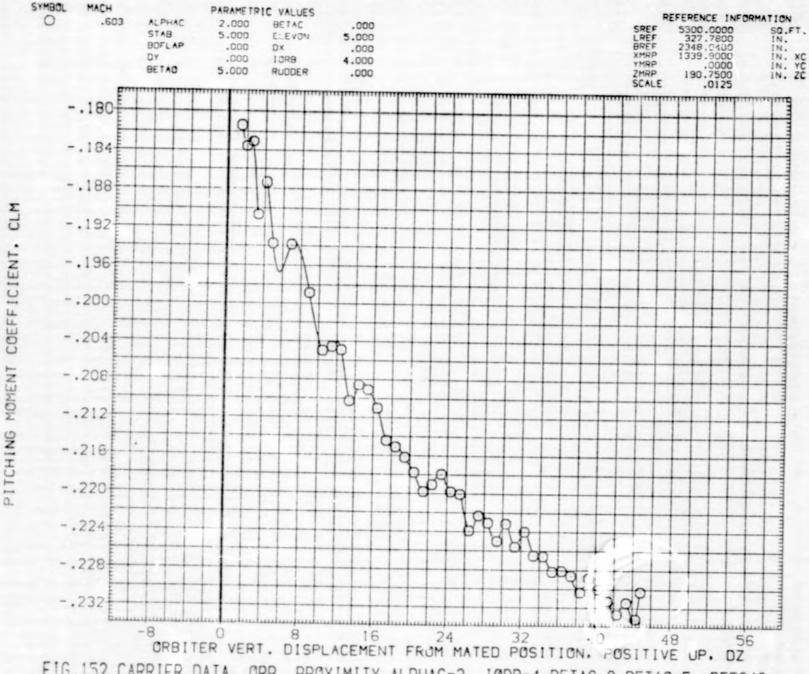
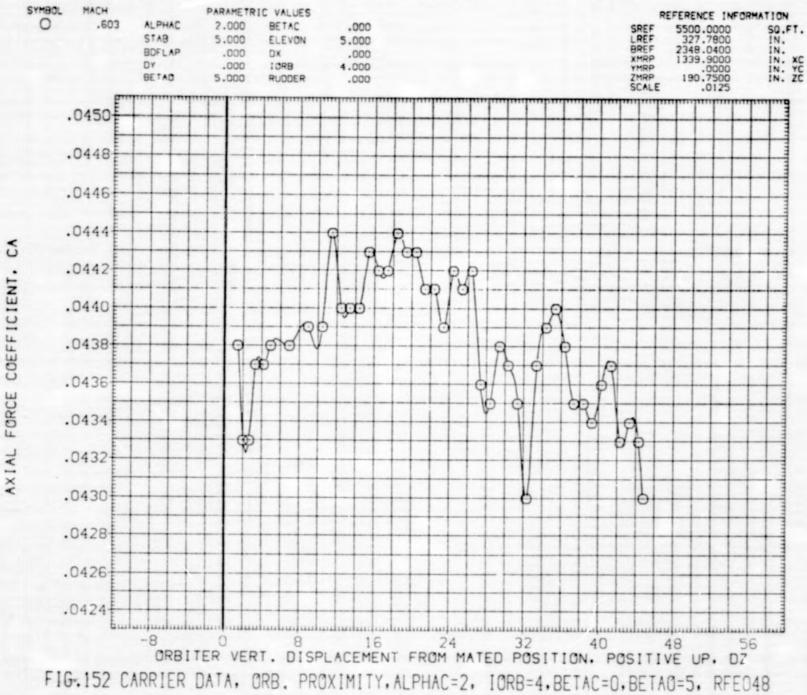


FIG. 152 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=4, BETAC=0, BETAO=5, RFEO48

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE048)



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE048)

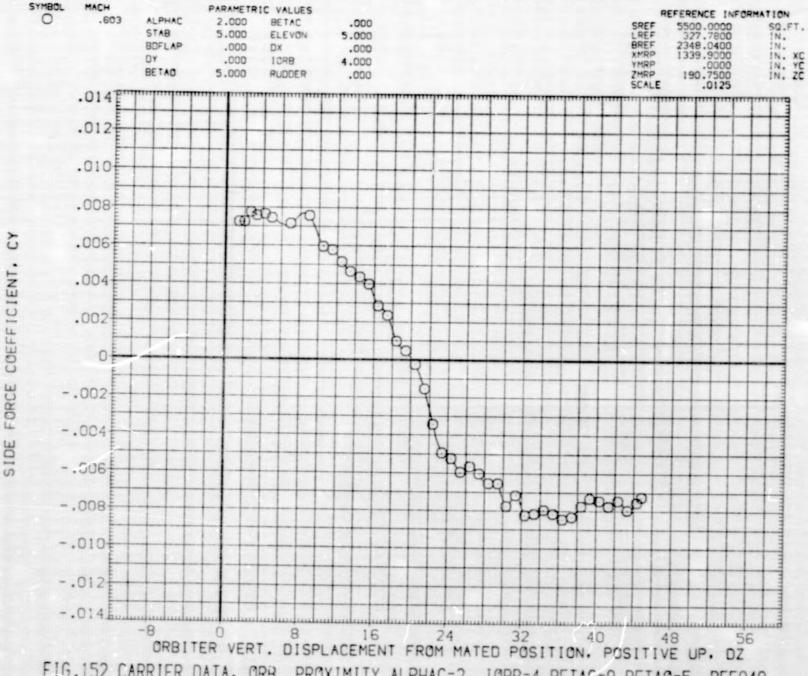
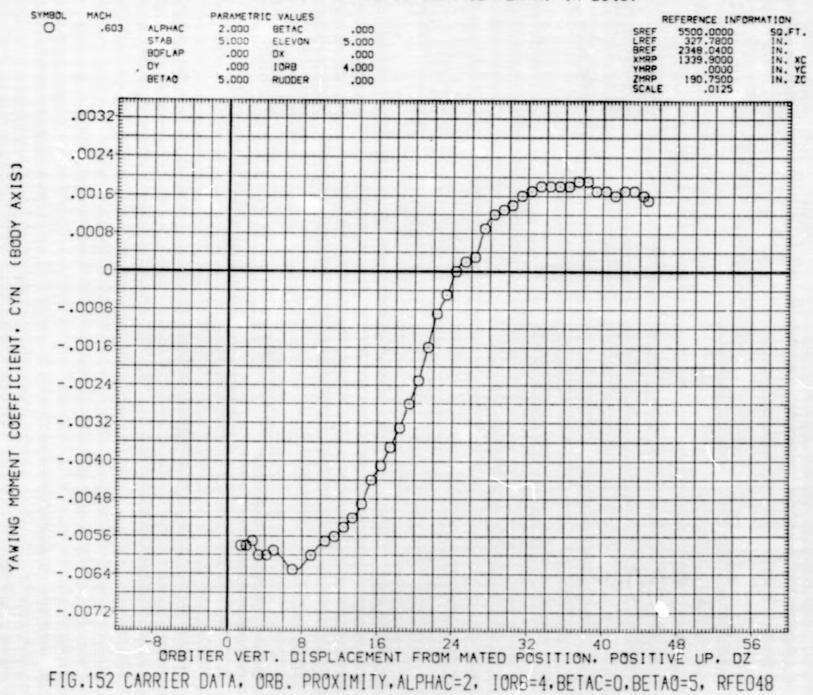


FIG. 152 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=4.BETAC=0.BETAO=5, RFEO48

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE048)



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE048)

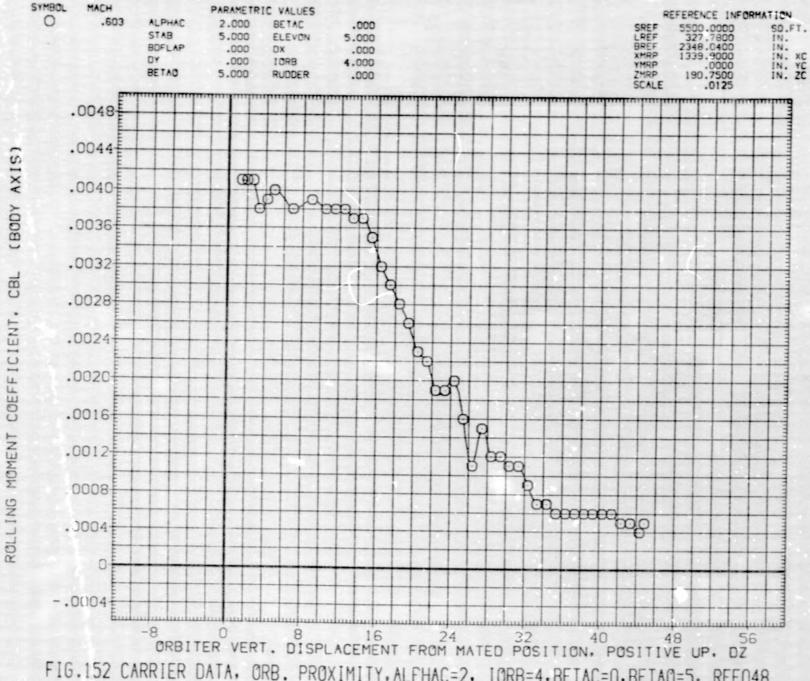


FIG.152 CARRIER DATA, ORB. PROXIMITY, ALFHAC=2, IORB=4, BETAC=0, BETAO=5, RFEO48 PAGE 1190

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE048)

0

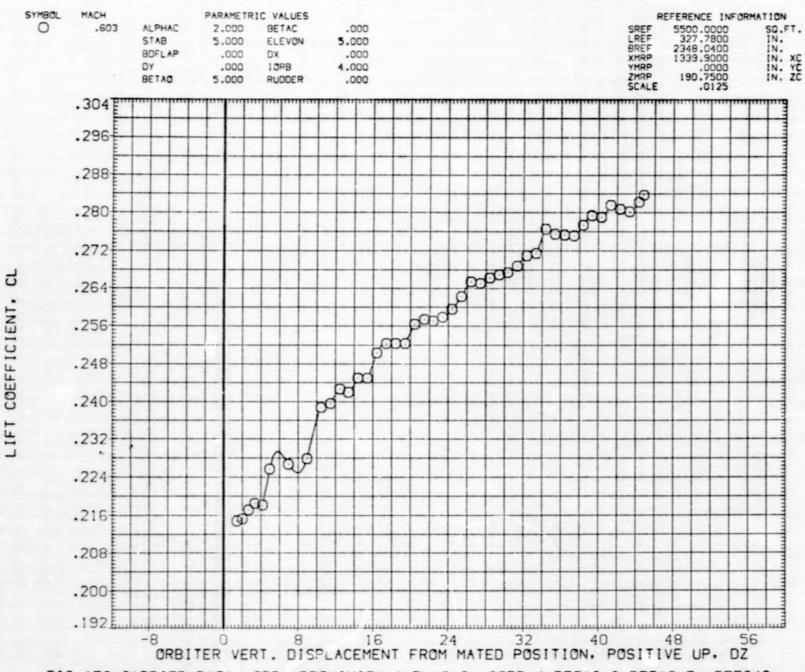


FIG.152 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=4, BETAC=0, BETAO=5, RFEO48

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE048)



FIG.152 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=4, BETAC=0, BETAO=5, RFEO48



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE049)

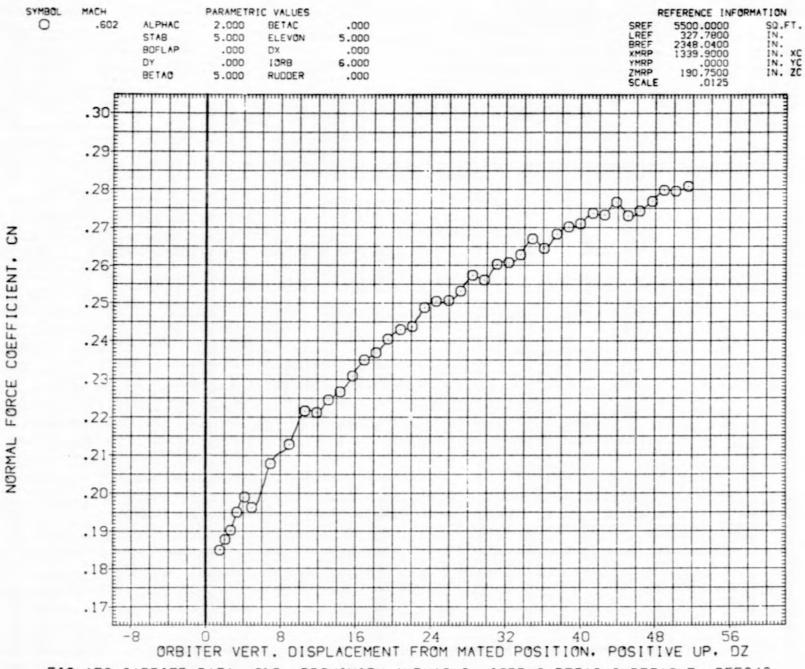


FIG.153 CARRIER DATA, ORB. PROYIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=5, RFEO49

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE049)

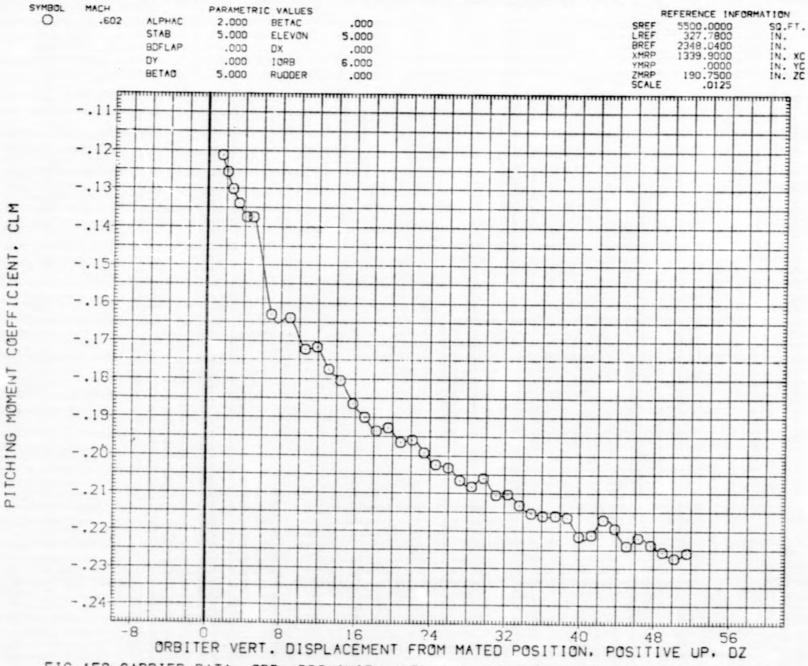


FIG. 153 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=5, RFEO49

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE049)

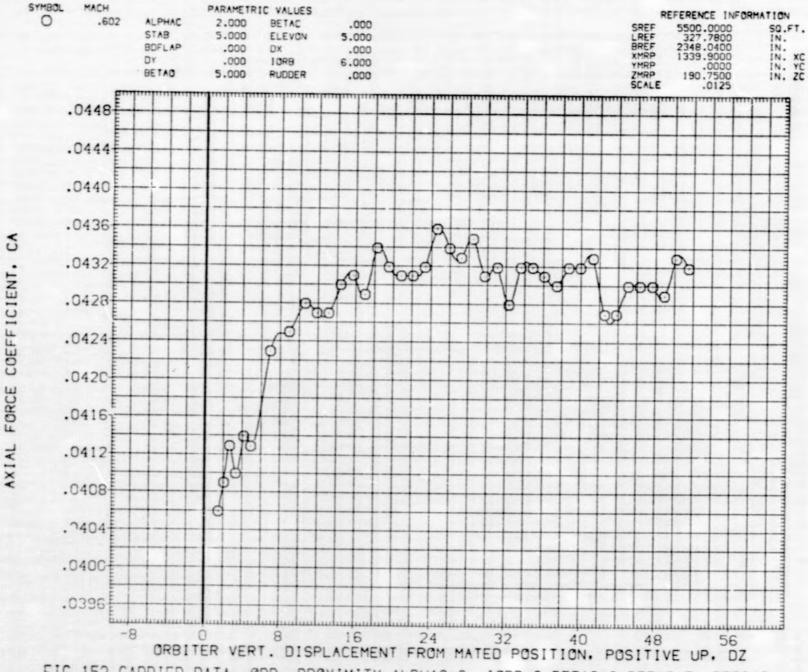


FIG.153 CARRIER DATA, ORB. PROXIMITY. ALPHAC=2, IORB=6, BETAC=0, BETAO=5, RFEO49

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE049)

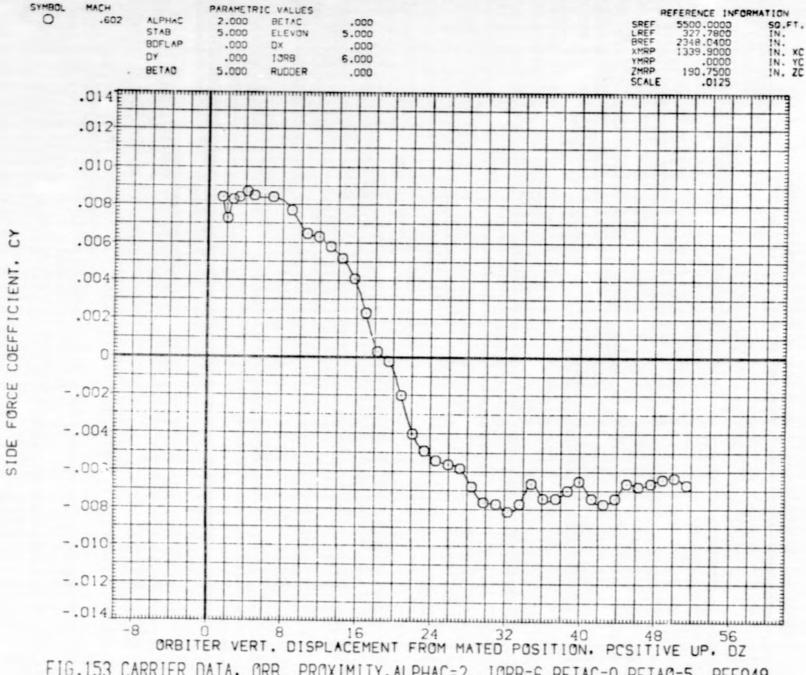
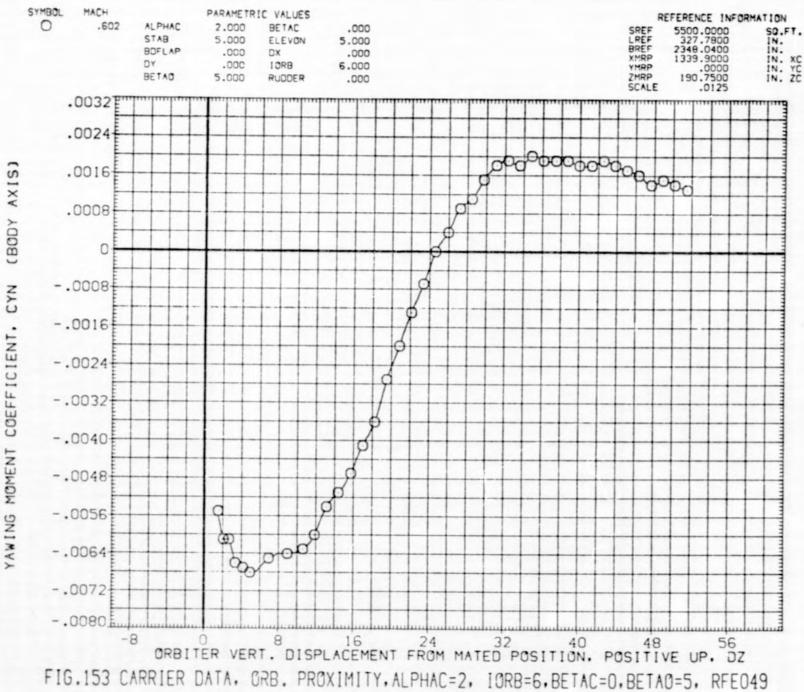


FIG.153 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=5, RFEO49 PAGE 1196

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE049)



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE049)

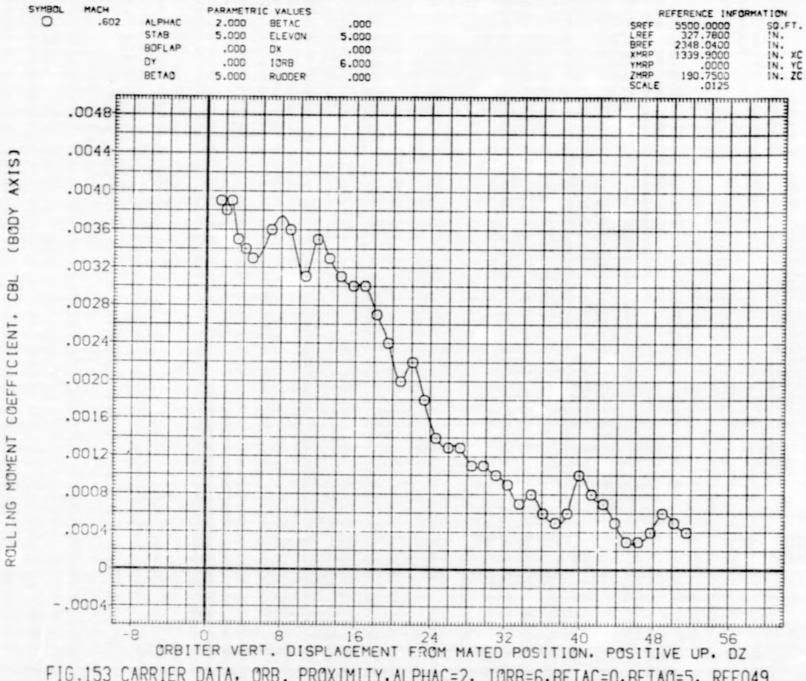
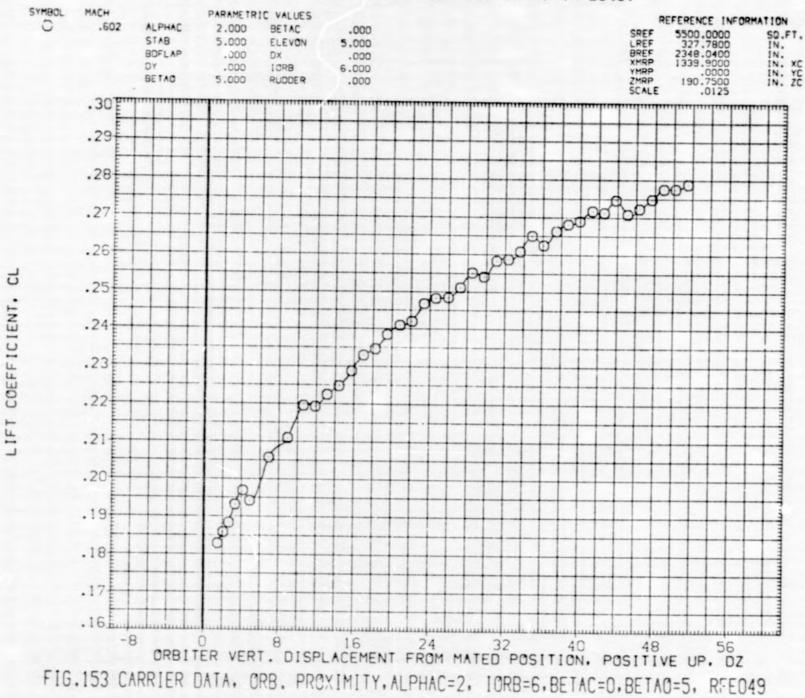


FIG. 153 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=5, RFEO49

LTV44-559(CA26) 747/1 ATY 02 SI (CARRIER DATA) (RFE049)



U.BETAU=5, R: EU49

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE049)

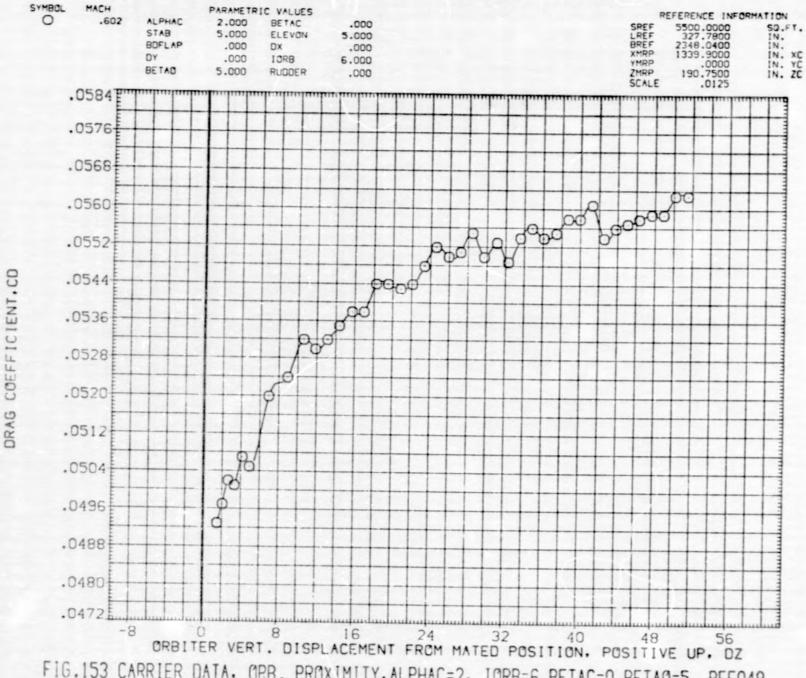


FIG.153 CARRIER DATA, OPB. PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=5, RFEO49 PAGE 1200

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE050)

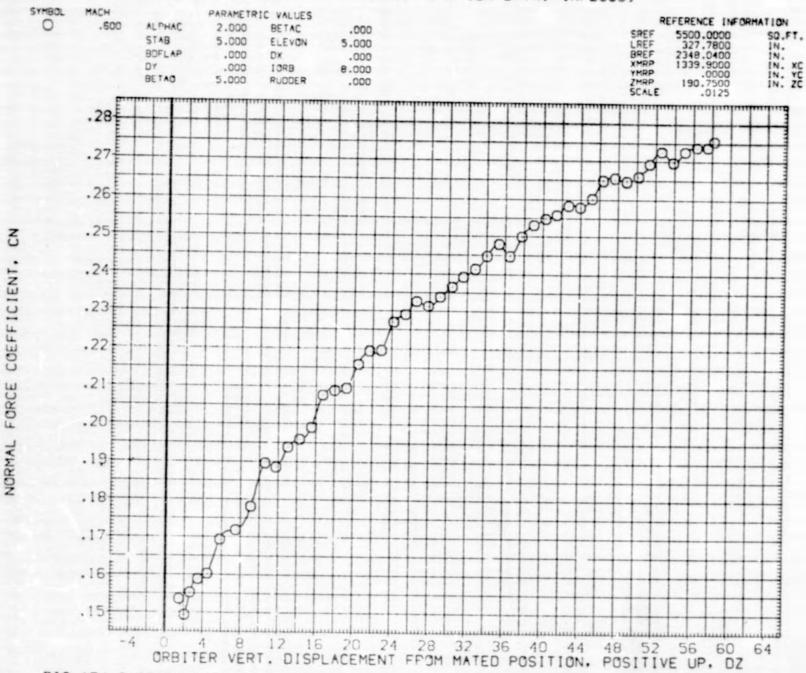


FIG.154 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=8.BETAC=0.BETAO=5, RFEO50

LTV44-559(CA26) 747/1 ATY 02 SI (CARRIER DATA) (RFE050)

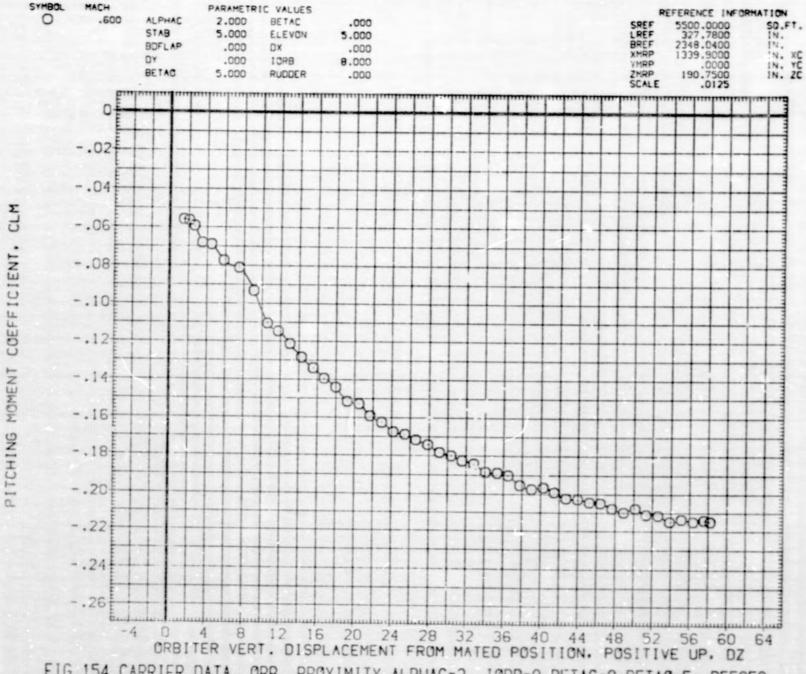


FIG.154 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=8, BETAC=0, BETAO=5, RFEO50

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE050)

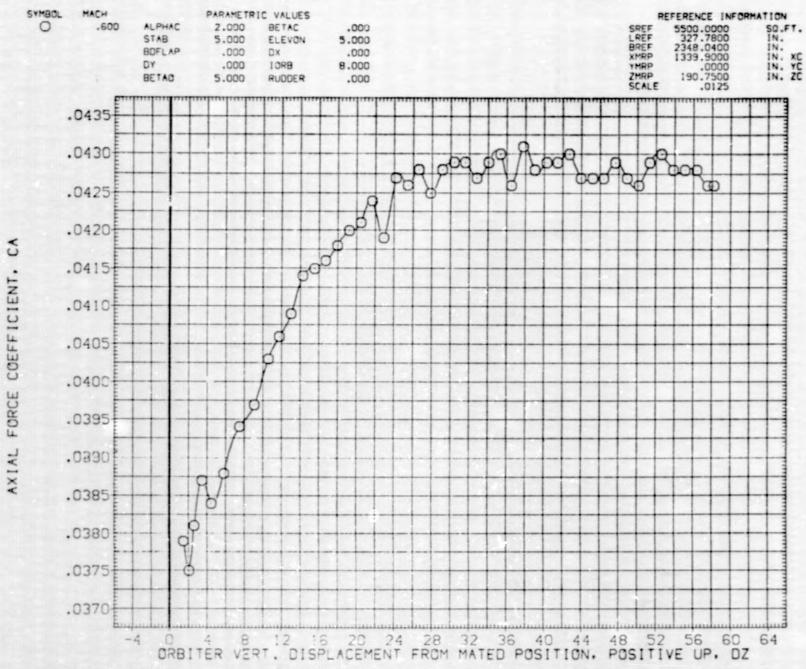


FIG.154 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2. IORB=8, BETAC=0, BETAO=5, RFEO50

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE050)

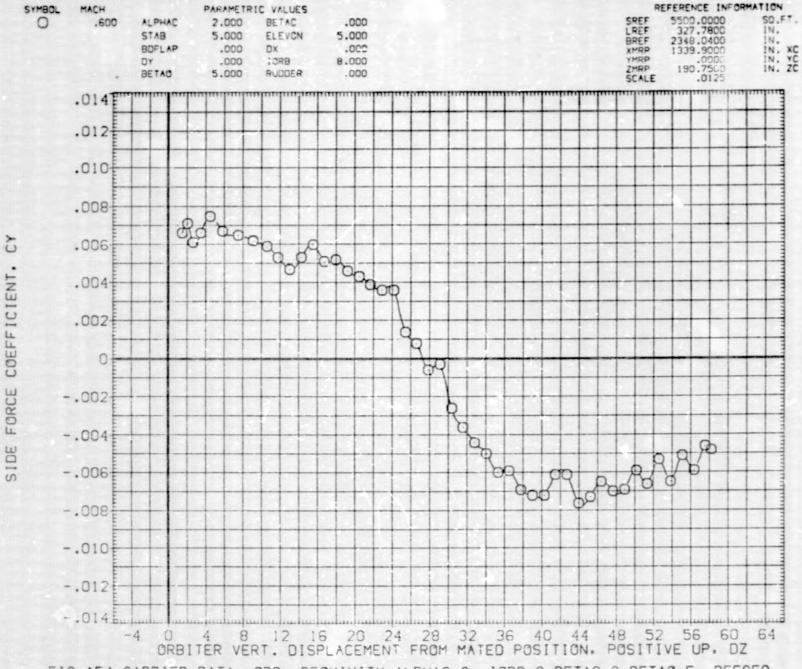


FIG.154 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=8, BETAC=0, BETAO=5, RFEO50

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE050)

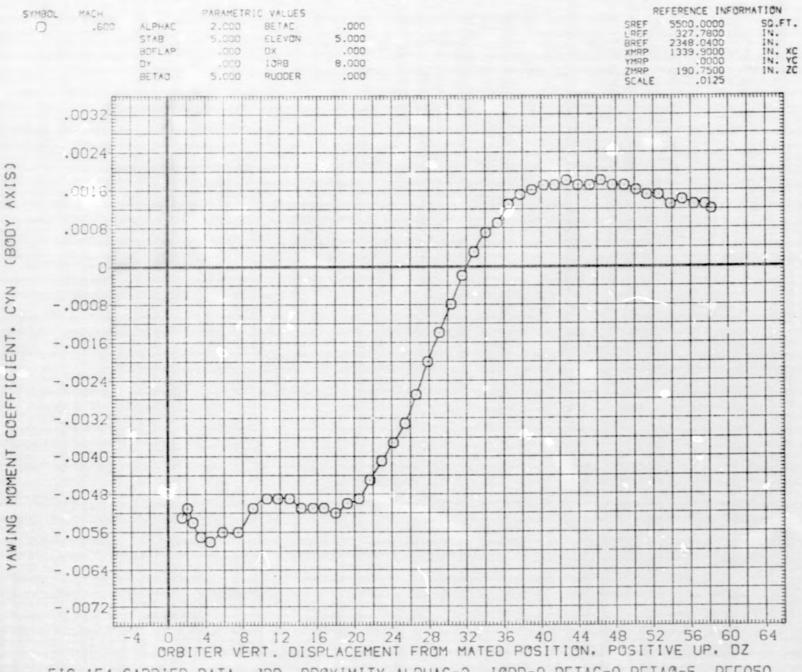


FIG.154 CARRIER DATA, JRB. PROXIMITY, ALPHAC=2, IORB=8, BETAC=0, BETAO=5, RFEO50
PAGE 1205

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE050)



FIG.154 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=8, BETAC=0, BETAO=5, RFEO50
PAGE 1206

LTV44-559(CA26) 747/1 ATY 02 SI (CARRIER DATA) (RFE050)

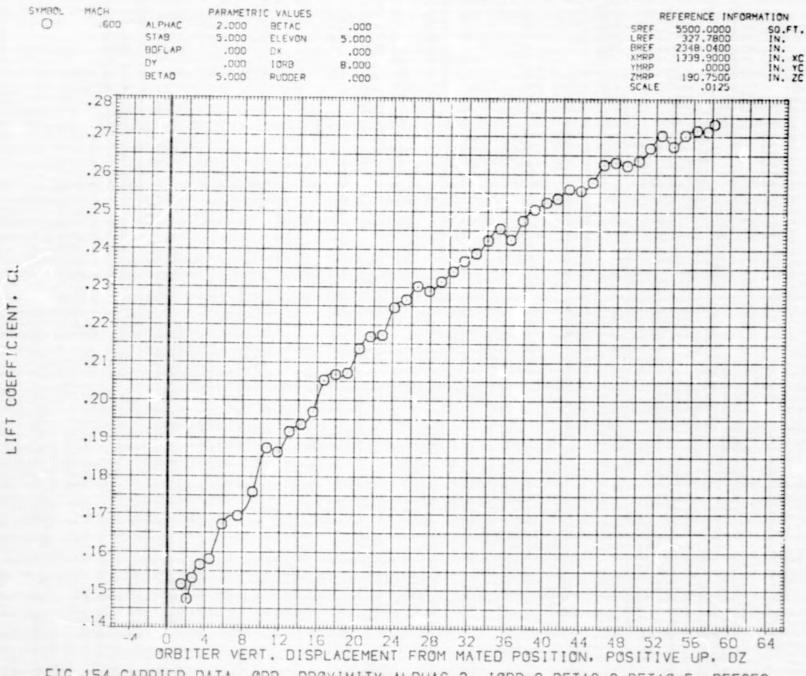


FIG.154 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=8, BETAC=0, BETAO=5, RFEO50

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE050)

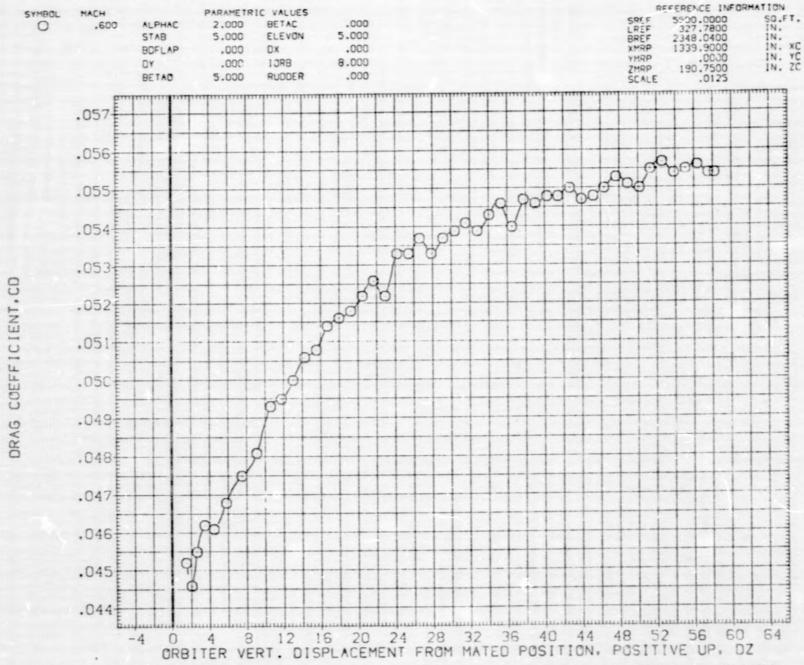


FIG.154 CARRIER DATA, GRB. PROXIMITY. ALPHAC=2, IORB=8, RETAC=0, BETAO=5, RFEO50

LTV44-559(CA26) 747/1 ATX 02 S1 (CARRIER DATA) (RFE051)

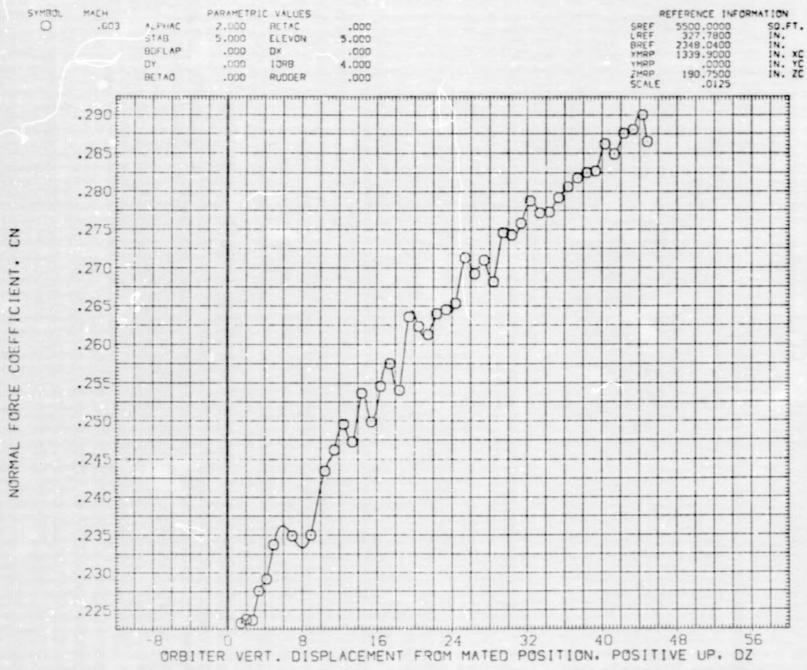


FIG.155 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=4, BETAC=0, BETAO=0, RFEO51

LTV44-559(CA26) 747/1 ATX 02 S1 (CARRIER DATA) (RFE051)

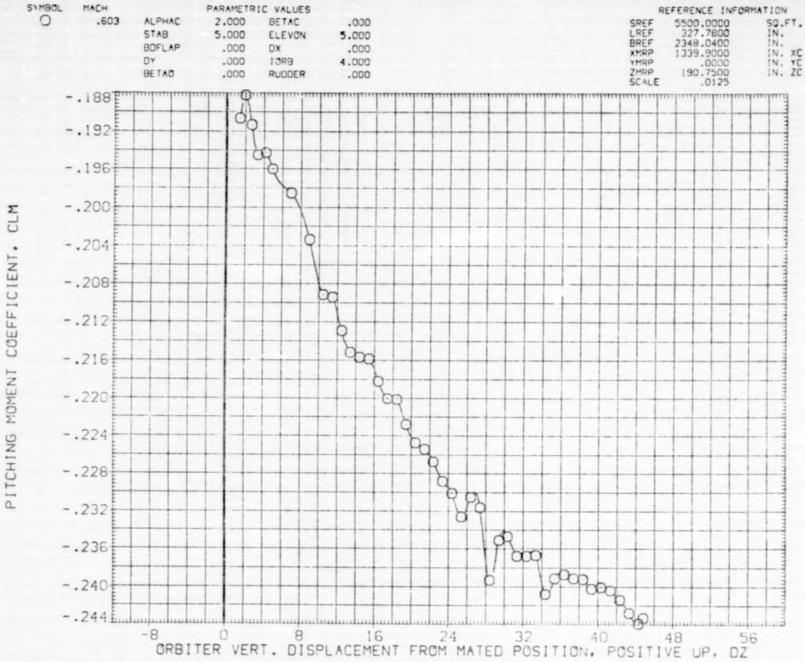


FIG.155 CARRIER DATA, ORB. PROXIMITY.ALPHAC=2, IORB=4.BETAC=0.BETAO=0, RFEO51

LTV44-559(CA26) 747/1 ATX 02 S1 (CARRIER DATA) (RFE051)

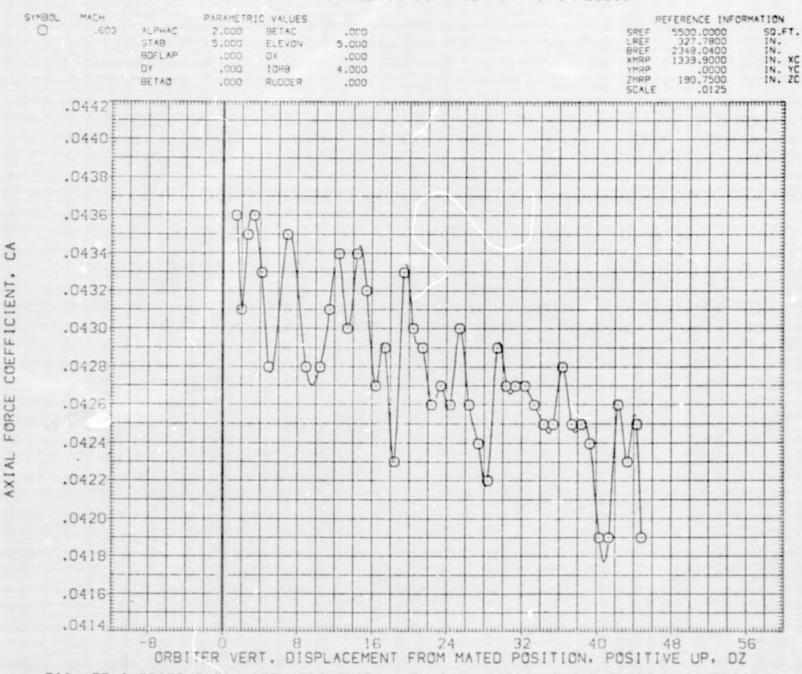


FIG.155 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=4, BETAC=0, BETAO=0, RFE051

LTV44-559(CA26) 747/1 ATX 02 S1 (CARRIER DATA) (RFE051)

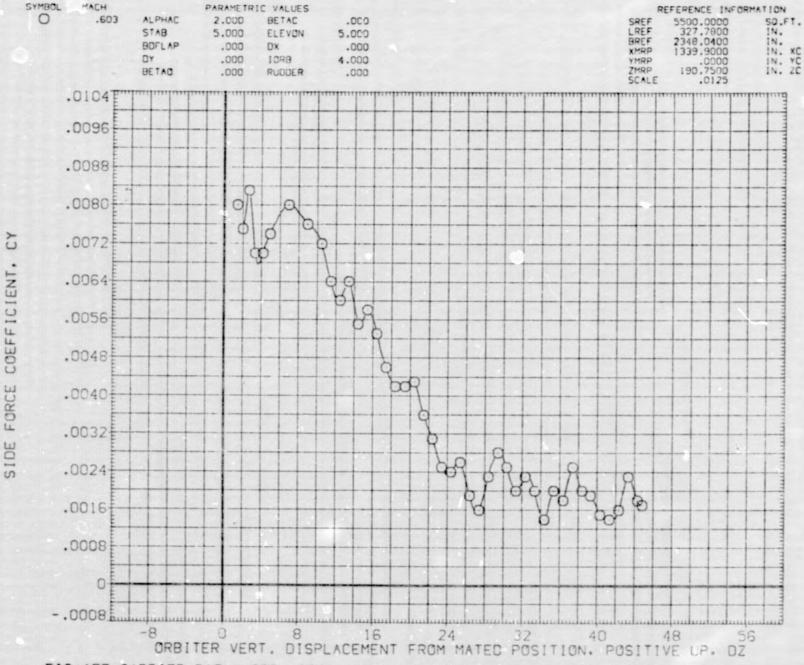


FIG.155 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=4, BETAC=0, BETAO=0, RFEO51

LTV44-559(CA26) 747/1 ATX 02 S1 (CARRIER DATA) (RFE051)

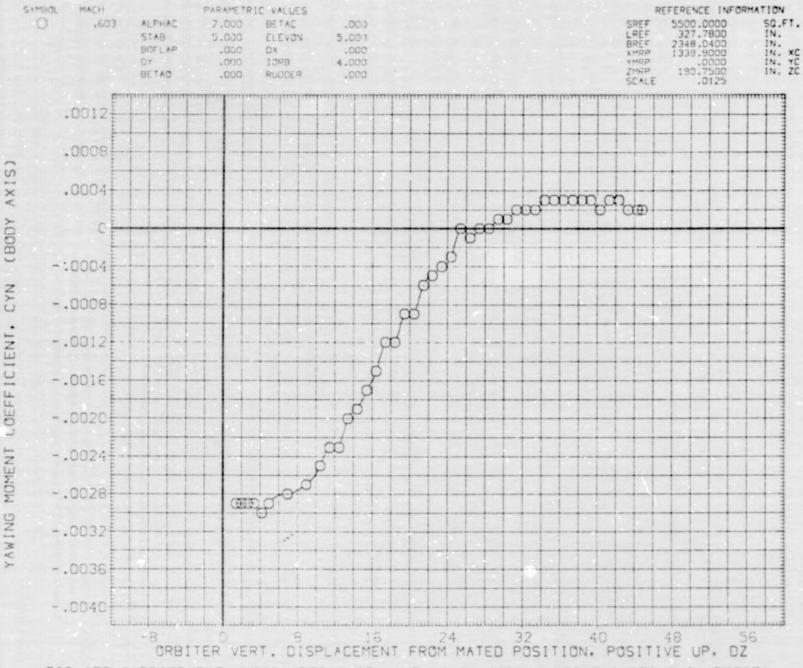


FIG.155 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=4, BETAC=0, BETAO=0, RFEO51

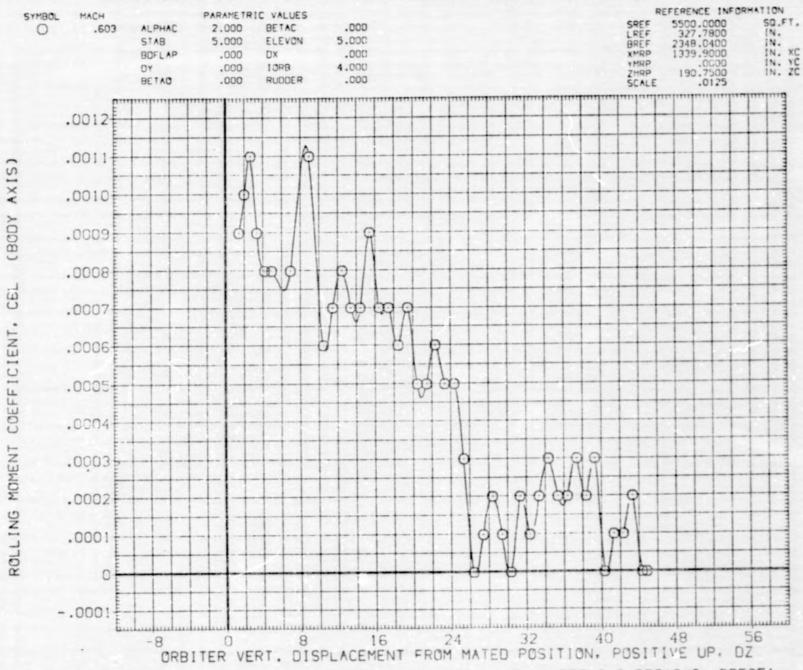


FIG.155 CARRIER DATA, ORB. PROXIMITY. ALPHAC=2, IORB=4, BETAC=0, BETAC=0, RFEO51

LTV44-559(CA26) 747/1 ATX 02 S1 (CARRIER DATA) (RFE051)

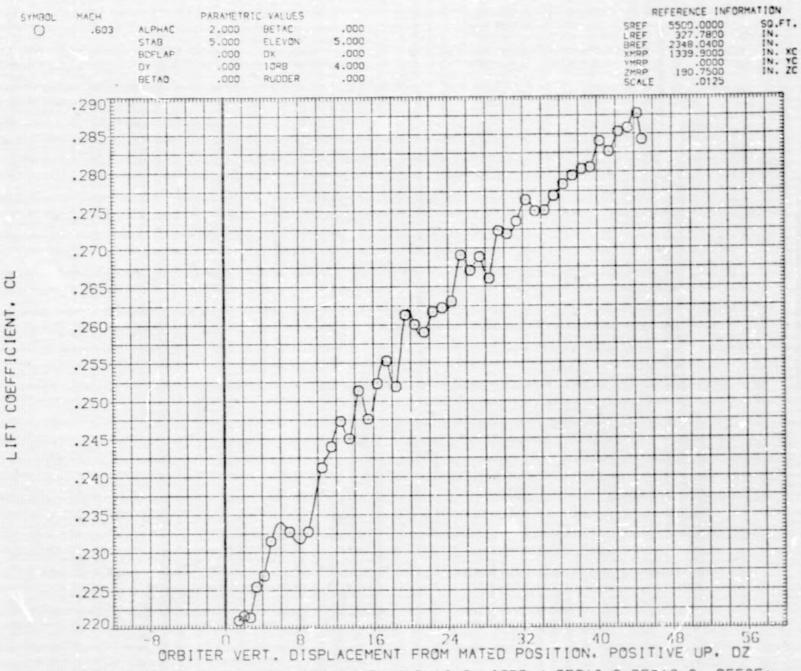


FIG.155 CARRIER DATA, ORB. PROXIMITY. ALPHAC=2, IORB=4.BETAC=0.BETAO=0. RFEO51

LTV44-559(CA26) 747/1 ATX 02 S1 (CARRIER DATA) (RFE051)

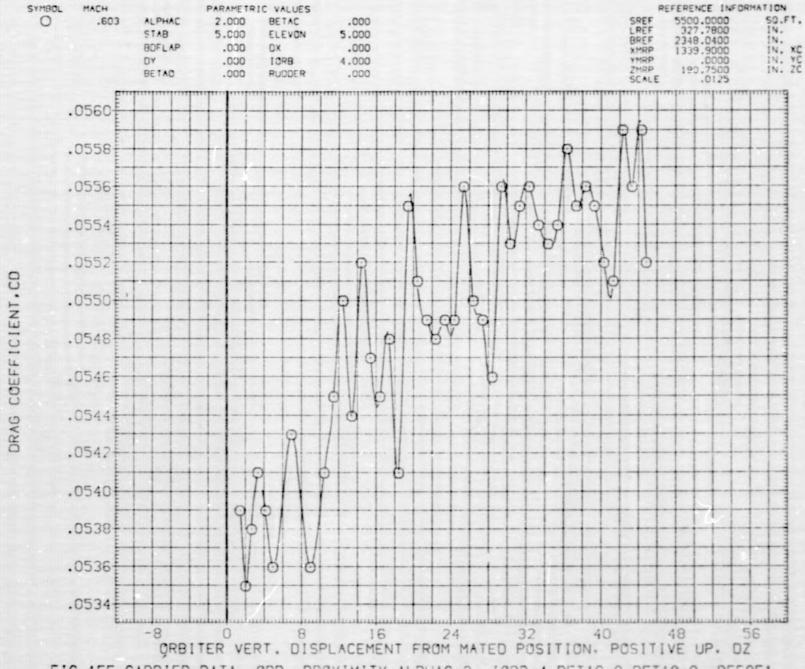


FIG.155 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=4, BETAC=0, BETAO=0, RFEO51

LTV44-559(CA26) 747/1 ATX 02 S1 (CARRIER DATA) (RFE052)

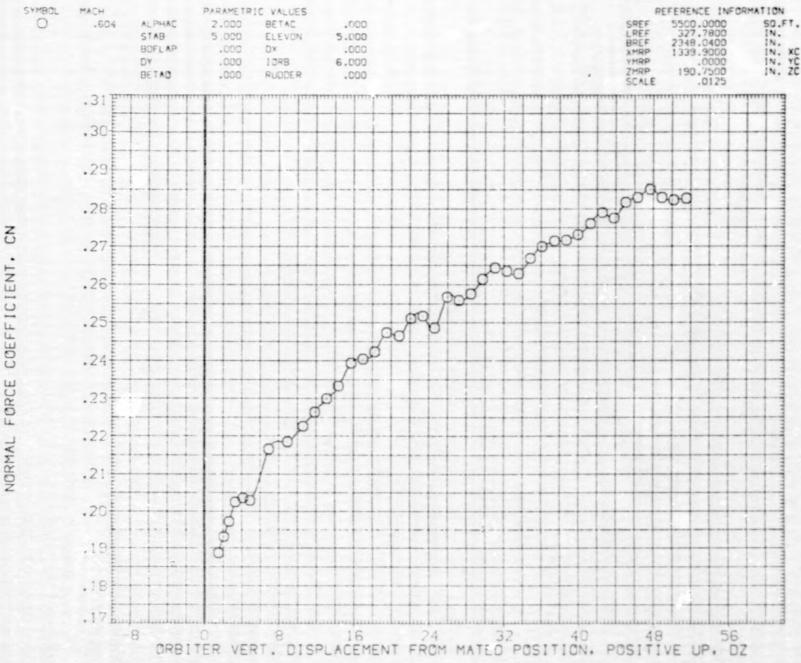


FIG. 156 CARRIER DATA, ORB. PROXIMITY. ALPHAC=2, 10RB=6.BETAC=0.BETAO=0, RFEO52

LTV44-559(CA26) 747/1 ATX 02 S1 (CARRIER DATA) (RFE052)

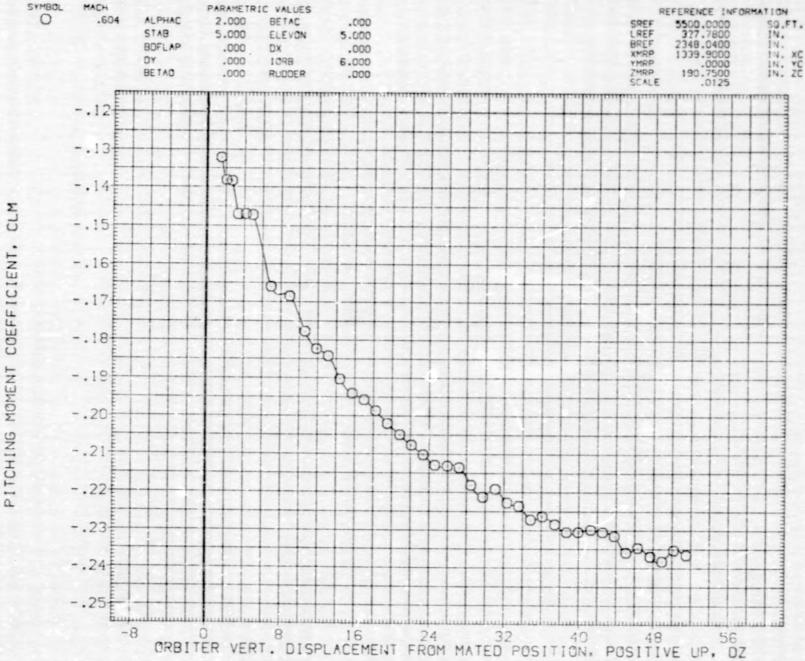


FIG.156 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAC=0, RFE052

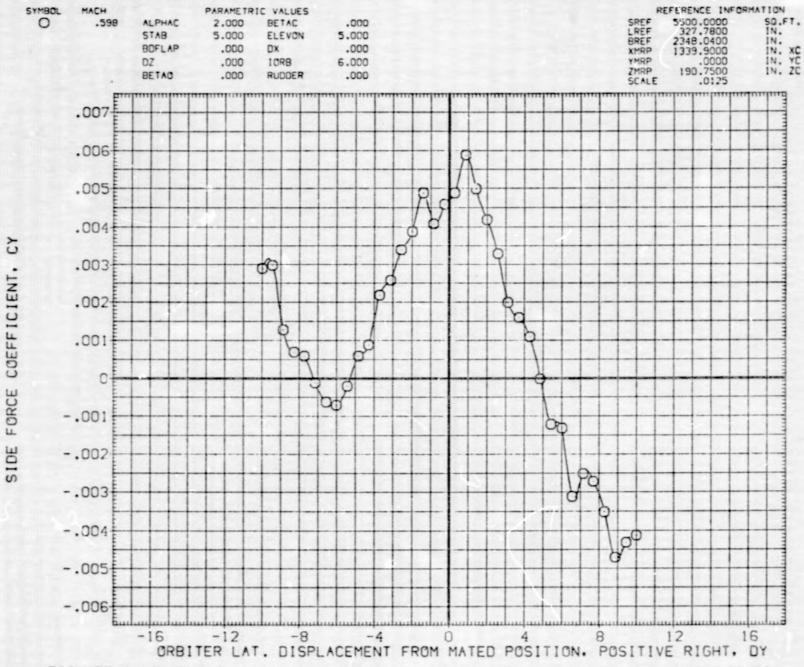


FIG.157 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, RFE053

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE053)

69

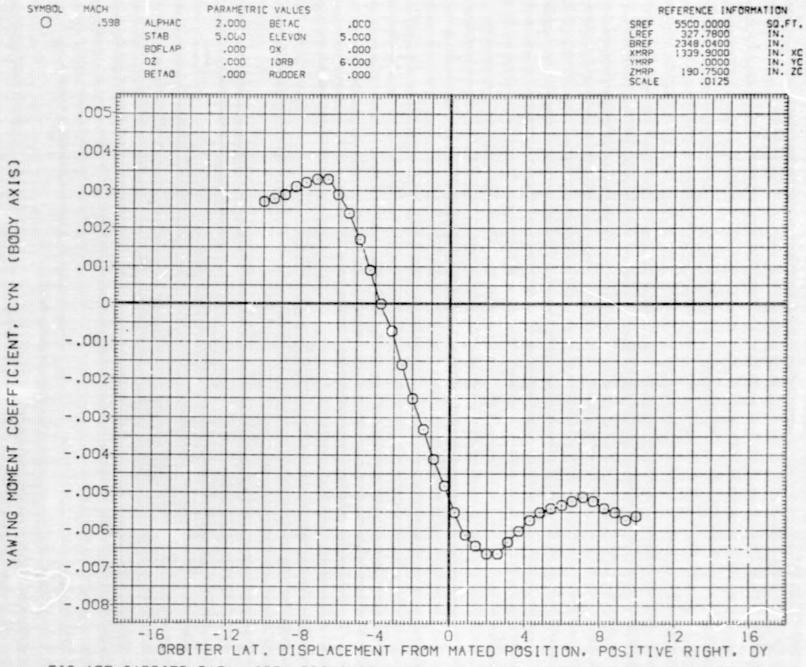


FIG.157 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=6.BETAC=0, BETAO=0, RFEO53

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE053)

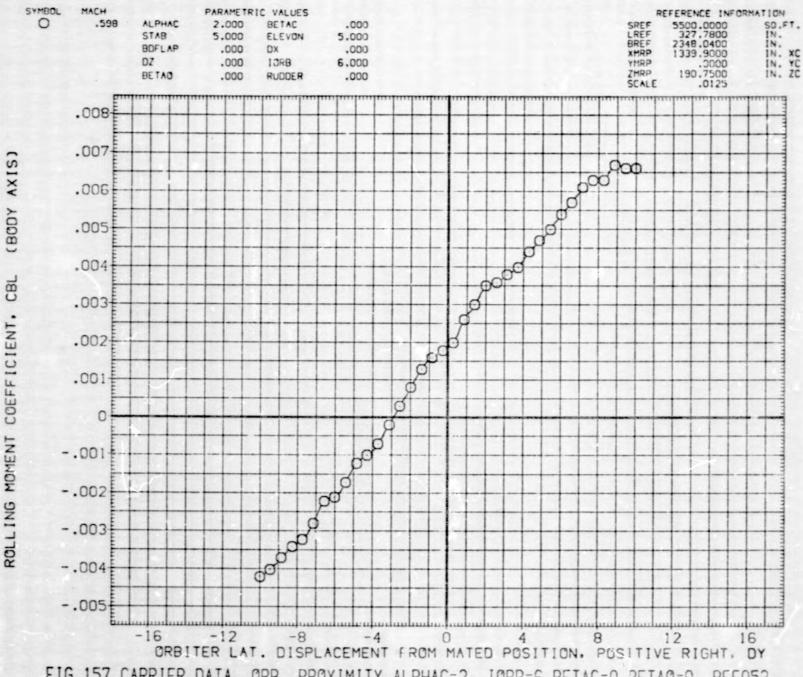
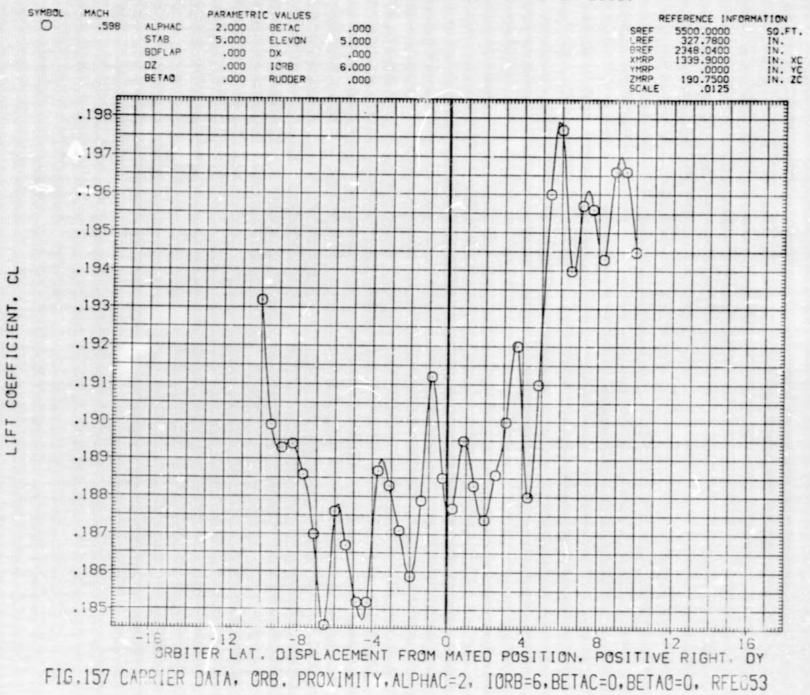


FIG.157 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, RFE053

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE053)

0



LTV44-559(CA26) 747/1 ATY 02 SI (CARRIER DATA) (RFE053)

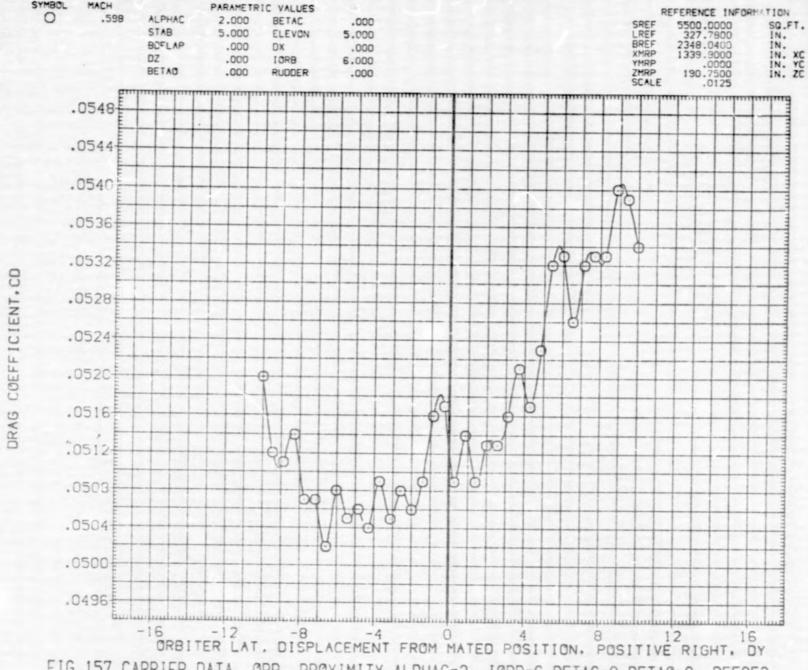
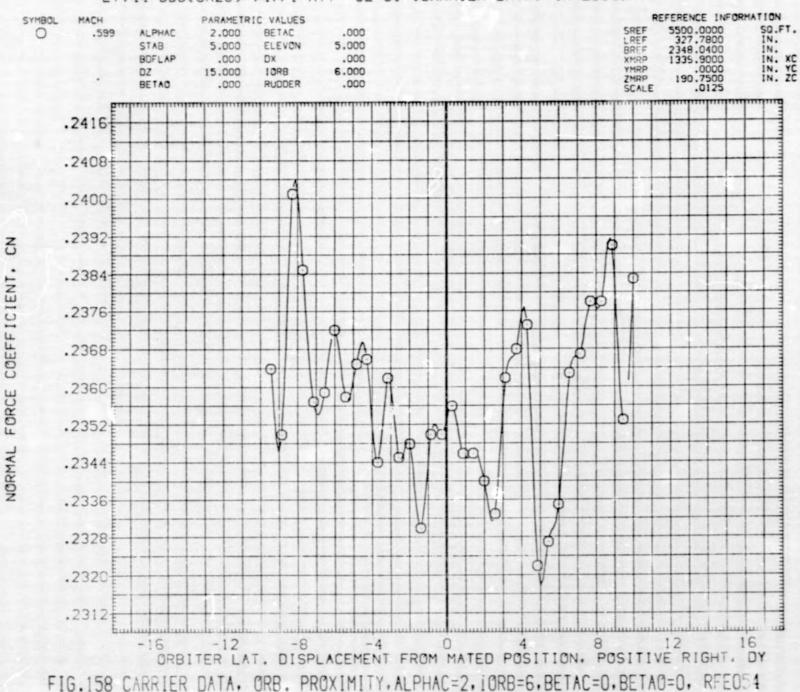


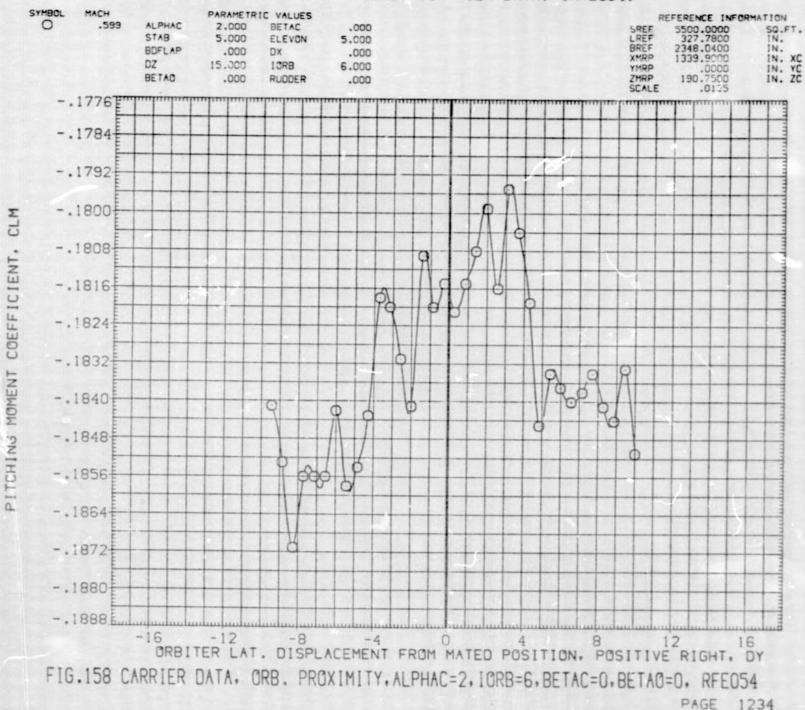
FIG.157 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, RFE053
PAGE 1232



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE054)



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE054)



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE054.

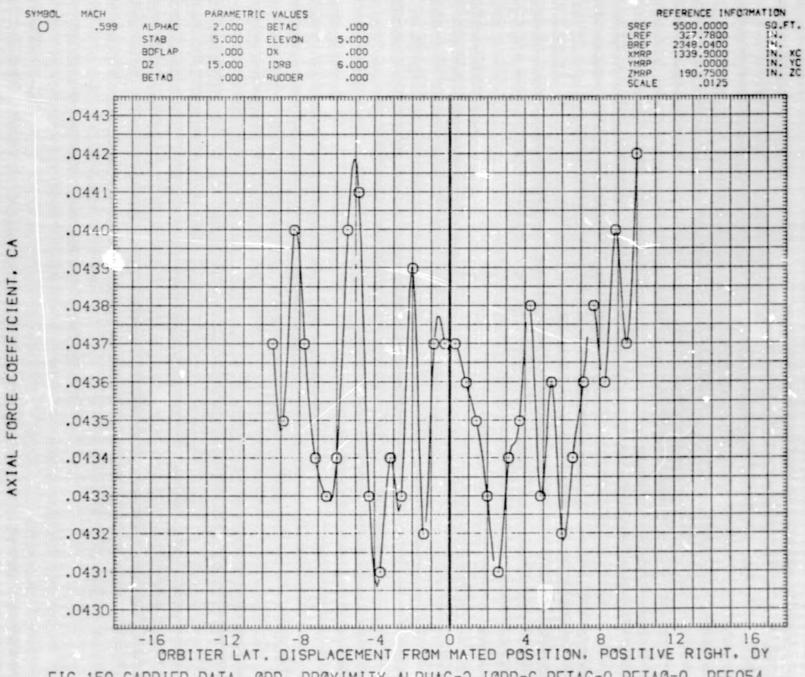


FIG.158 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, RFE054

LTV44-559(CA26) 747/1 ATY 02 SI (CARRIER DATA) (RFE054)

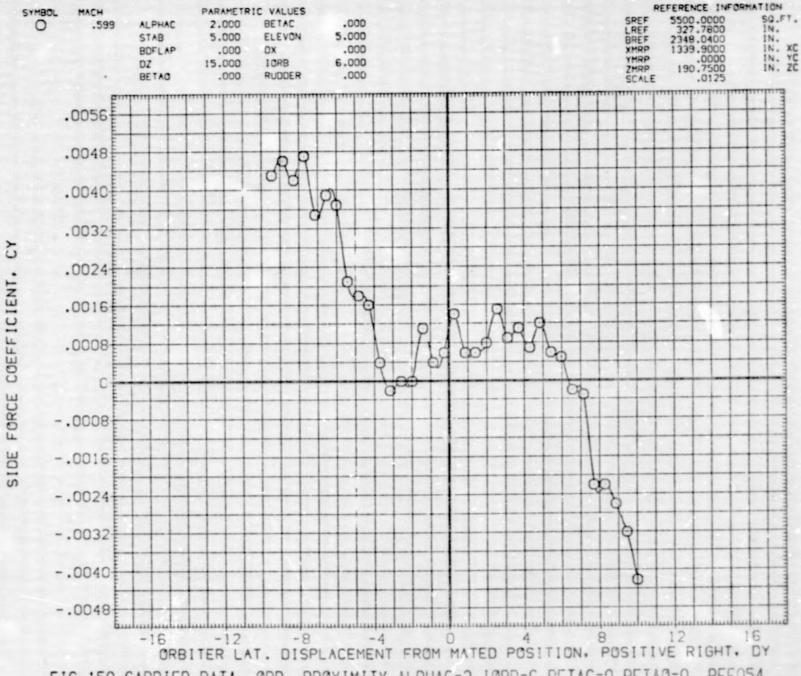
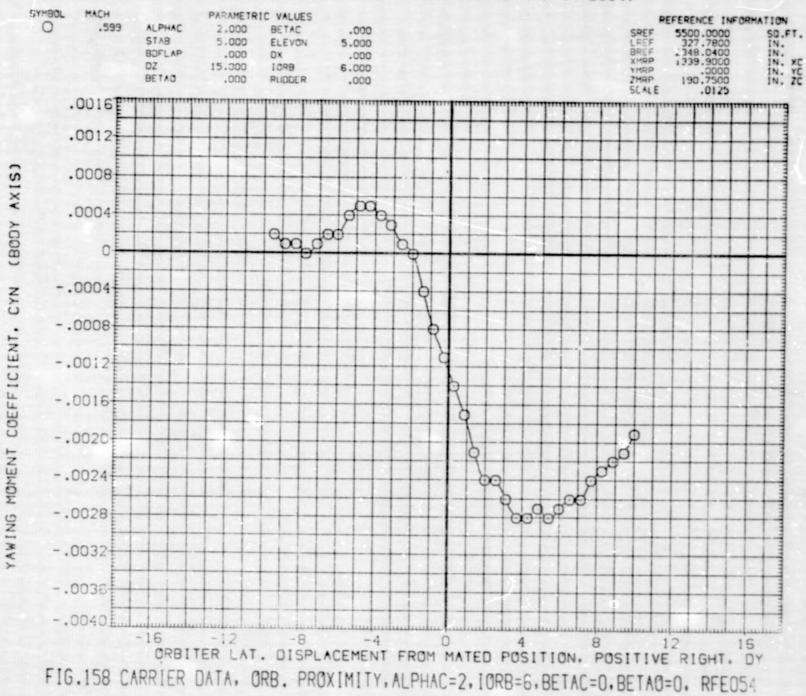


FIG.158 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, RFE054

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE054)



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE054)

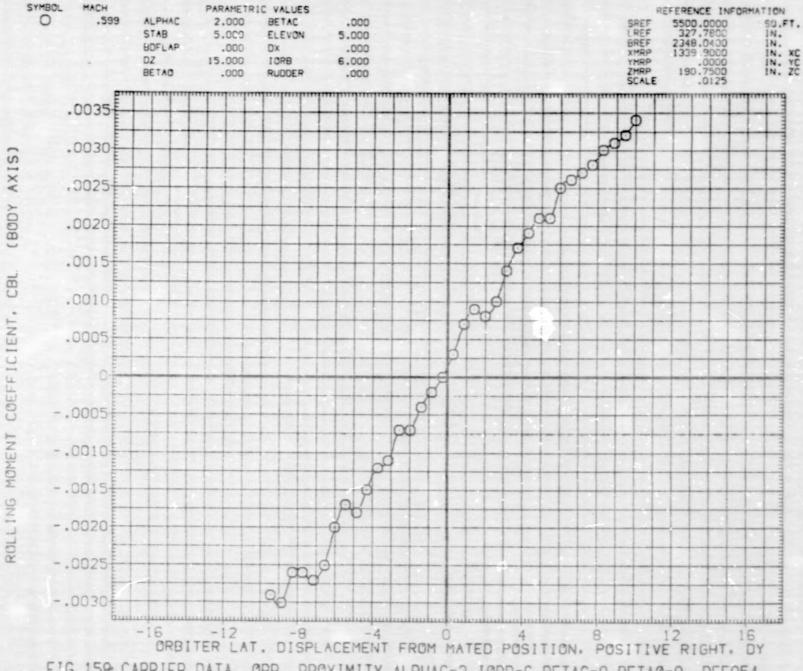
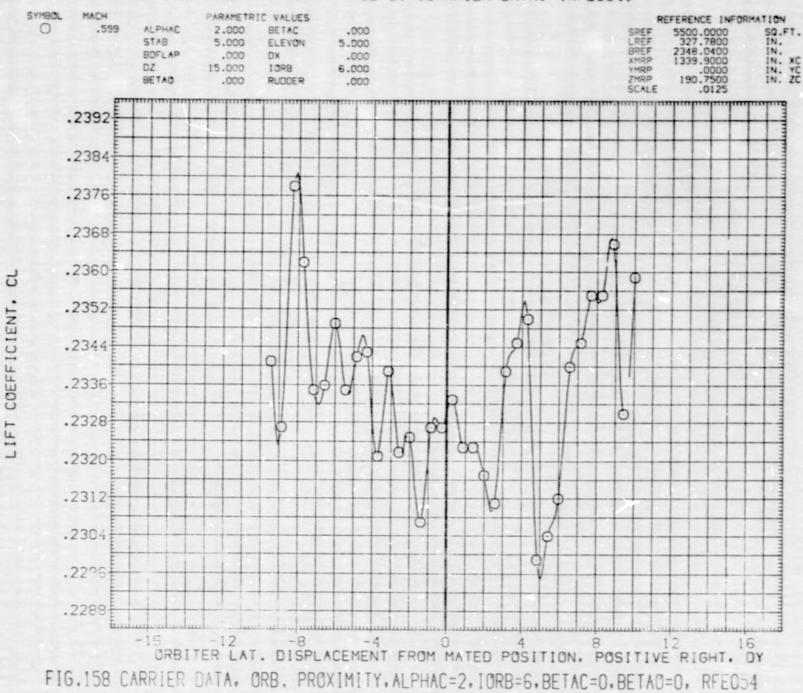
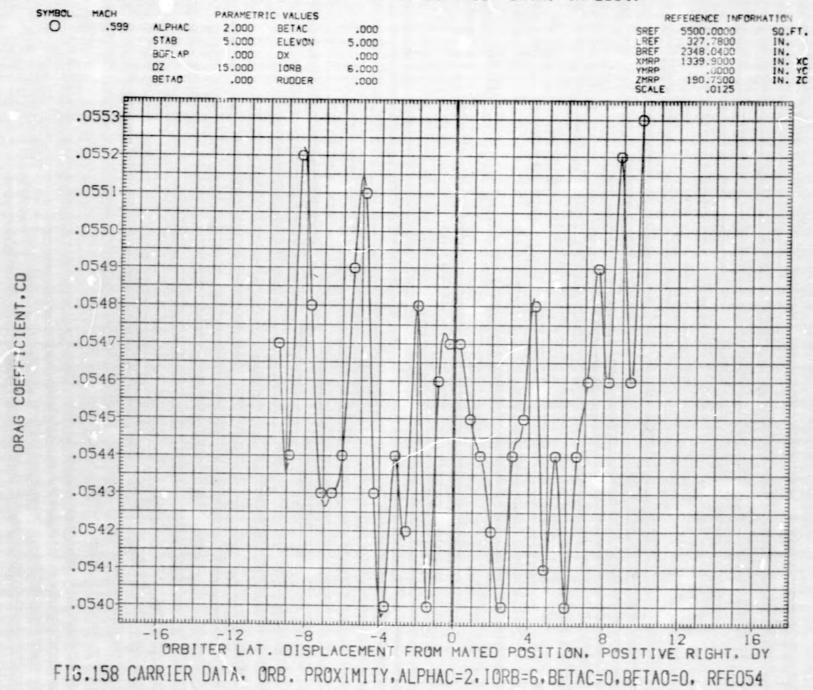


FIG.158 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, RFEO54

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE054)



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE054)



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE055)

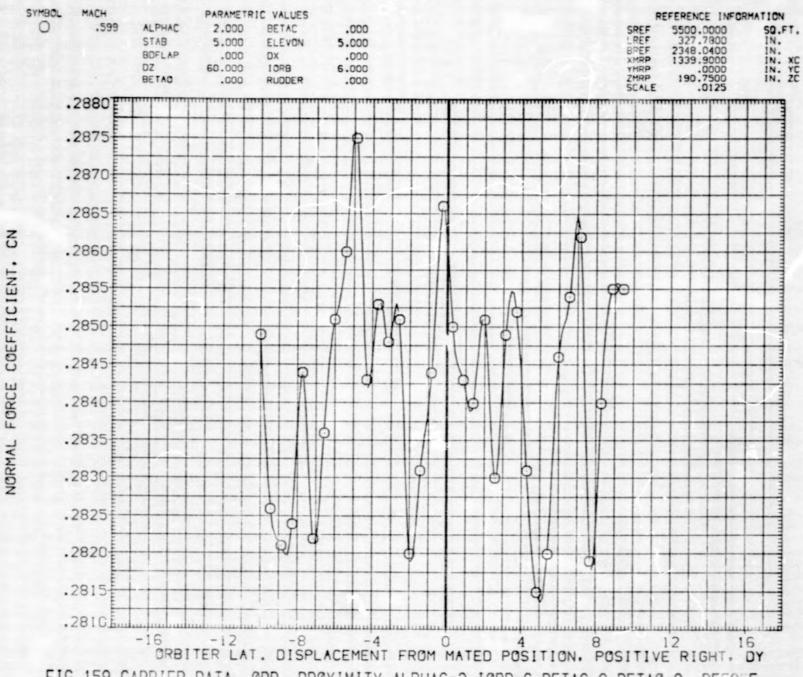


FIG.159 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, RFE055

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE055)

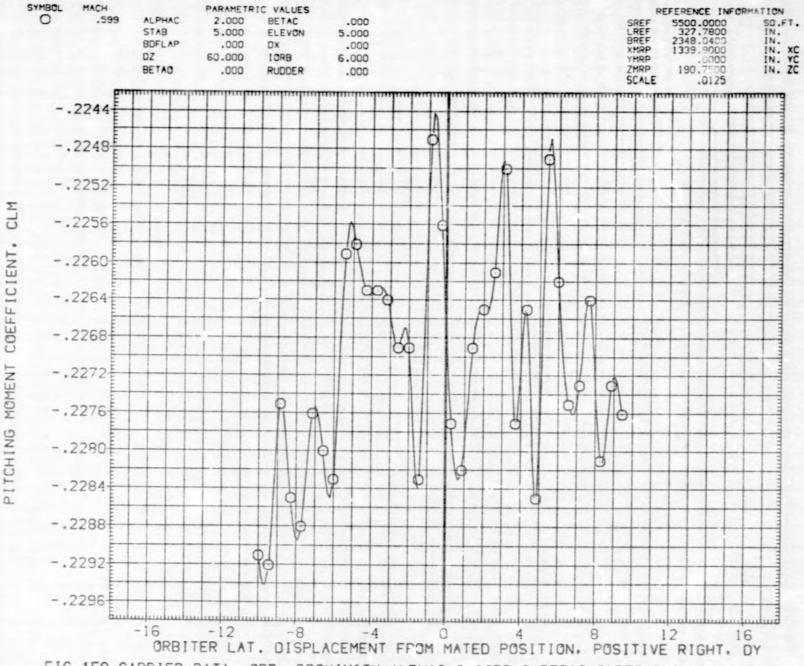


FIG.159 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, RFE055

LTV44-559(CA26) 747/1 ATY 02 SI (CARRIER DATA) (RFE055)

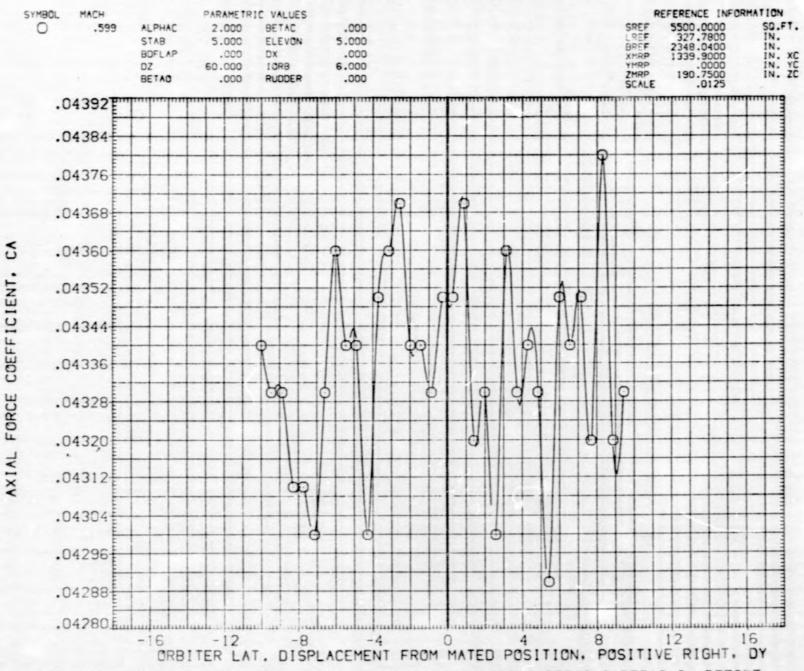


FIG.159 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, 10RB=6, BETAC=0, BETAO=0, RFE055

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE055)

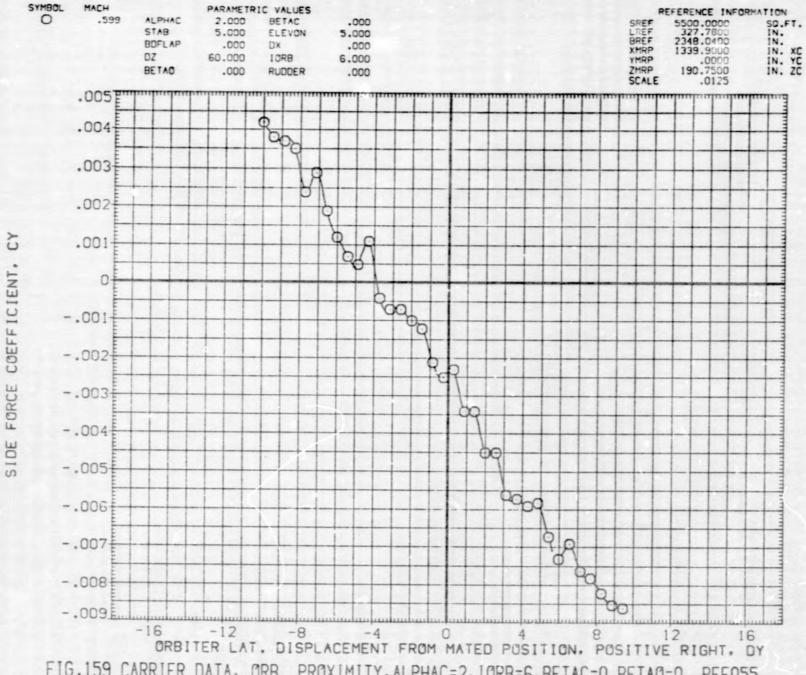
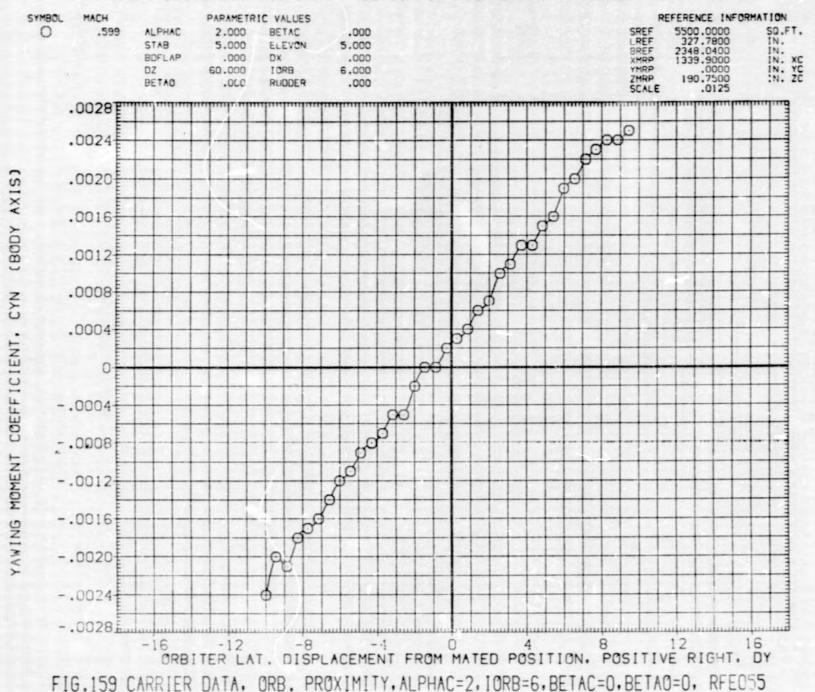


FIG.159 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, RFE055

LTV44-559(CA26) 747/1 ATY 02 SI (CARRIER DATA) (RFE055)



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE055)

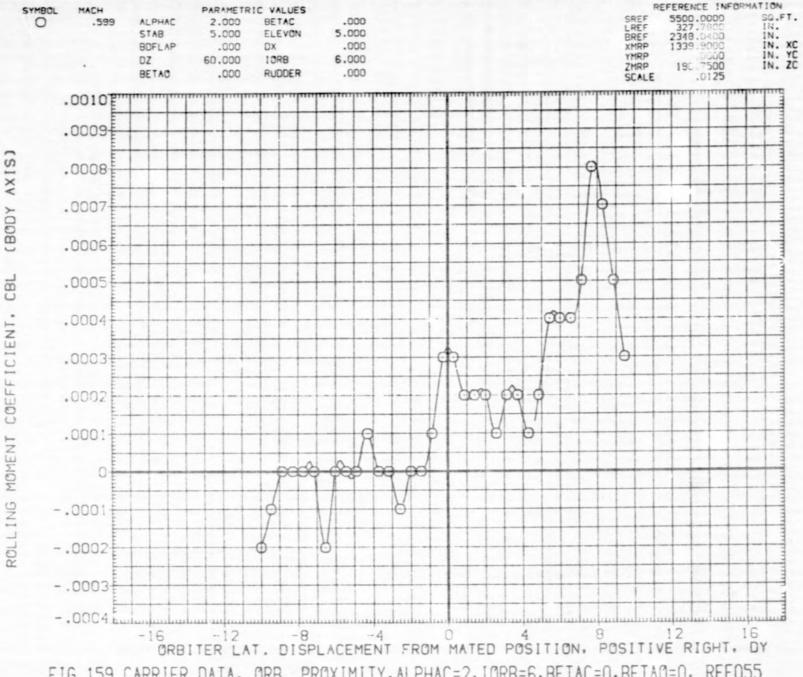


FIG. 159 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, RFEO55 PAGE 1246



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE055)

0

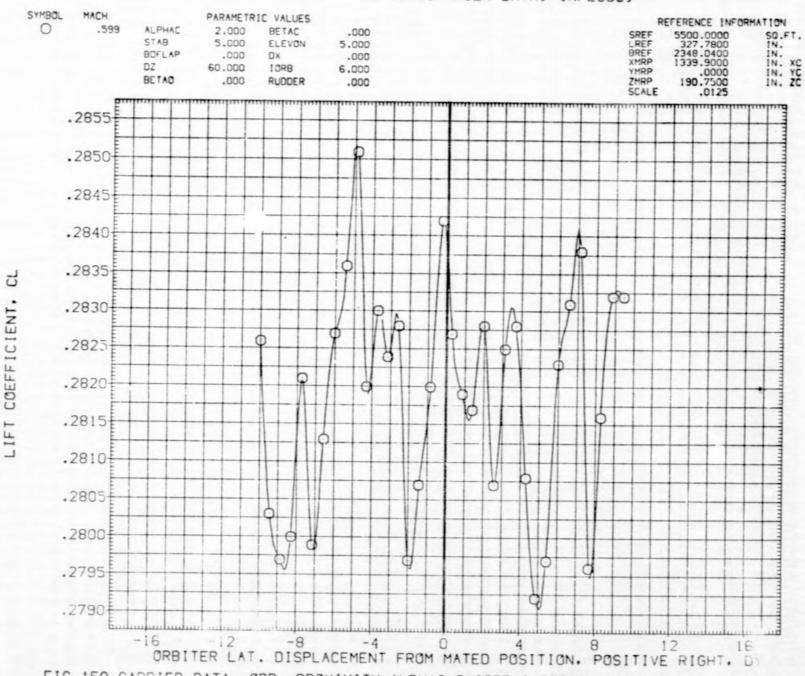


FIG.159 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, RFE055

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE055)

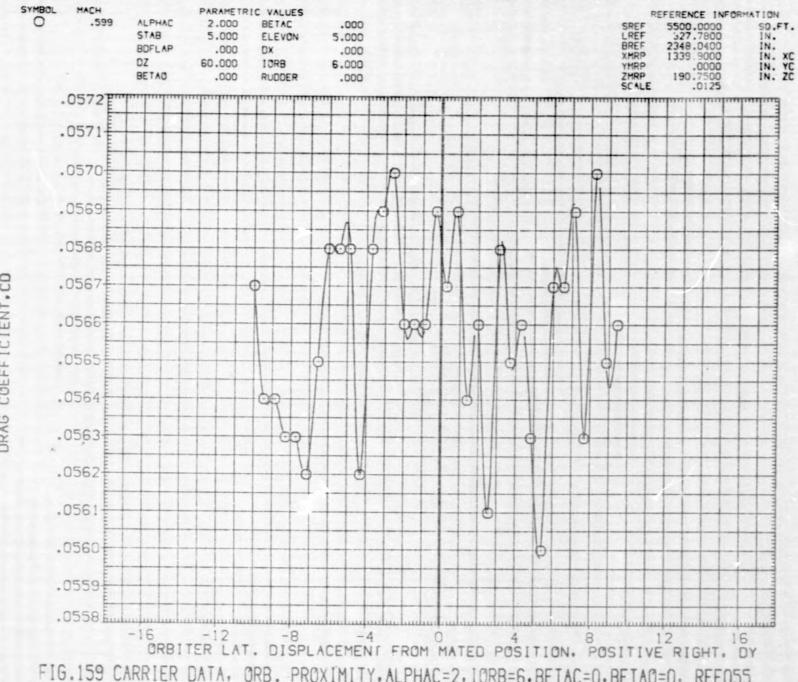


FIG. 159 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, RFE055 PAGE 1248



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE056)

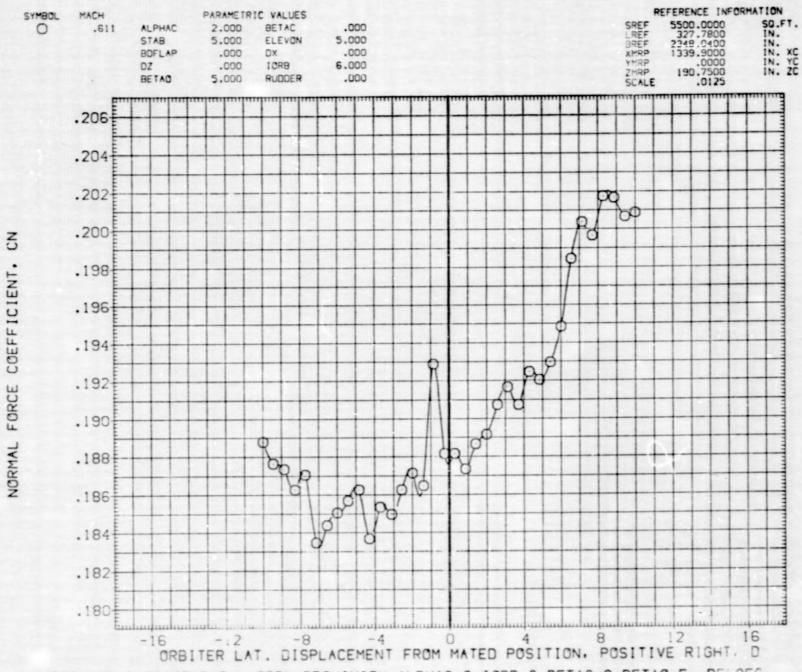


FIG. 160 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAC=5, RFL056

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE056)

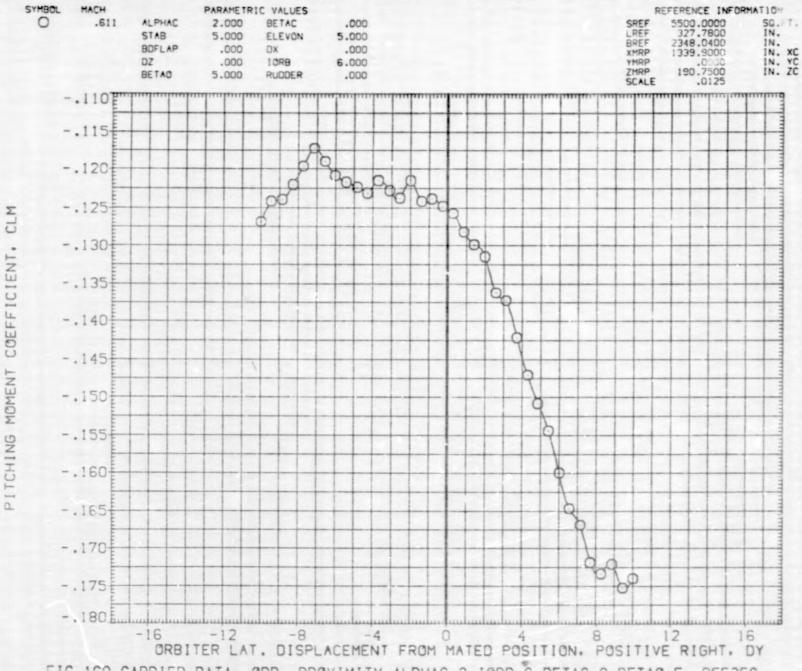
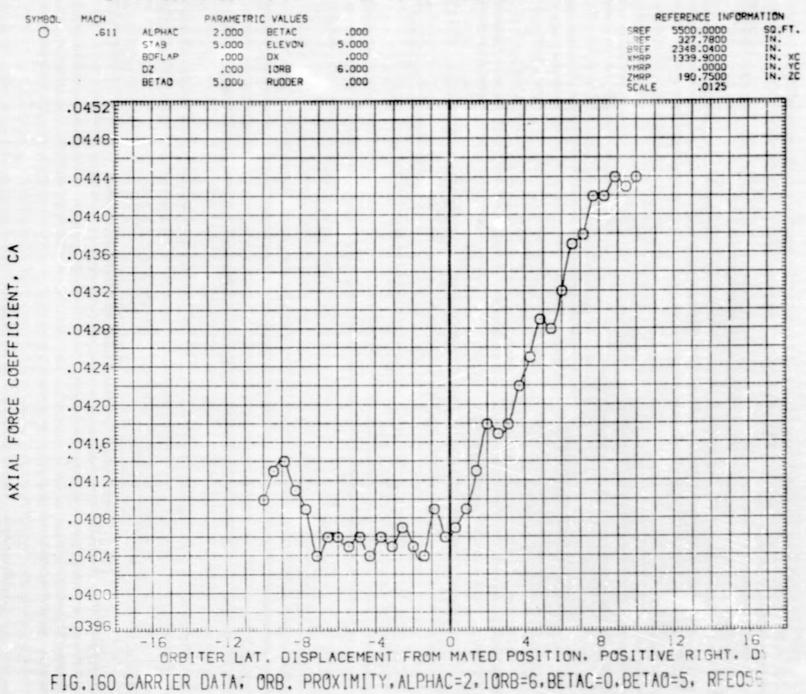


FIG. 160 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=5, RFE056
PAGE 1250

LTV44-559(CA26) 747/1 ATY 02 SI (CARRIER DATA) (RFE056)



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE056)

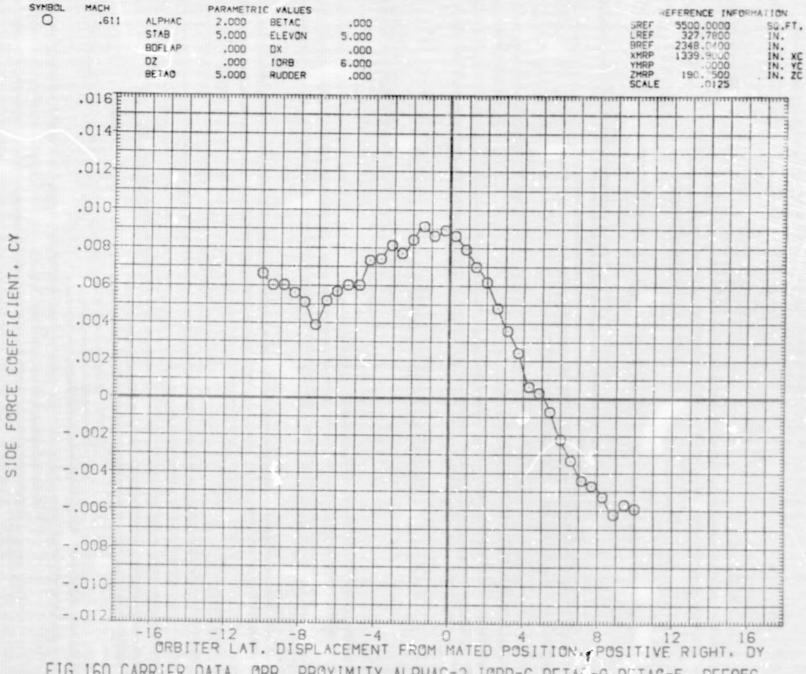
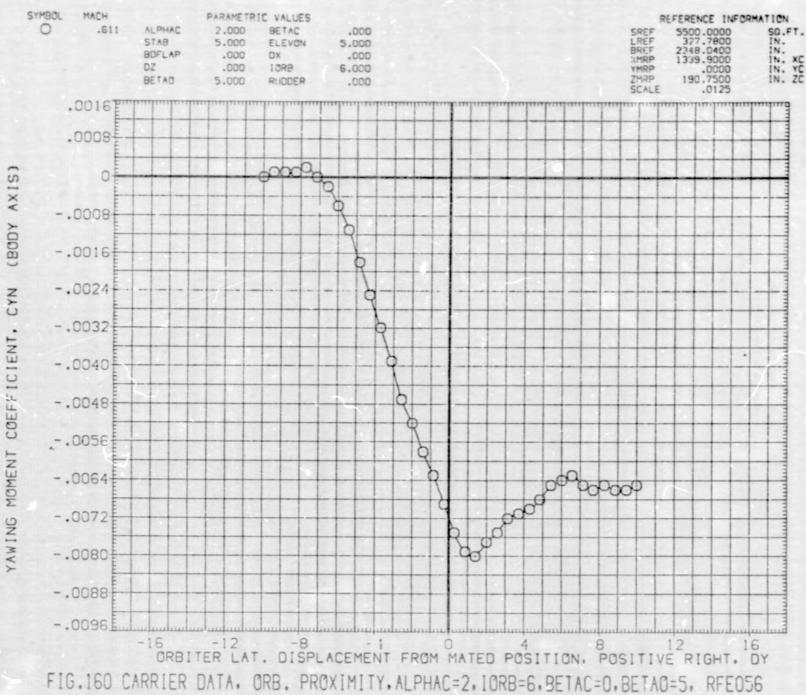


FIG. 160 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAC=5, RFE056

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE056)



LTV44-559(CA26) 747/1 ATY 02 SI (CARRIER DATA) (RFE056)

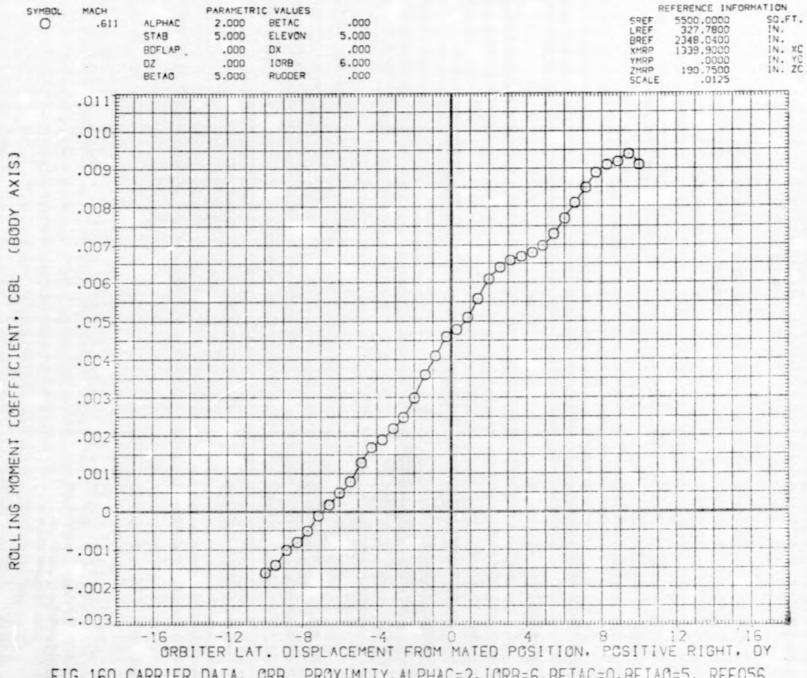


FIG.160 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=5, RFE056

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE056)

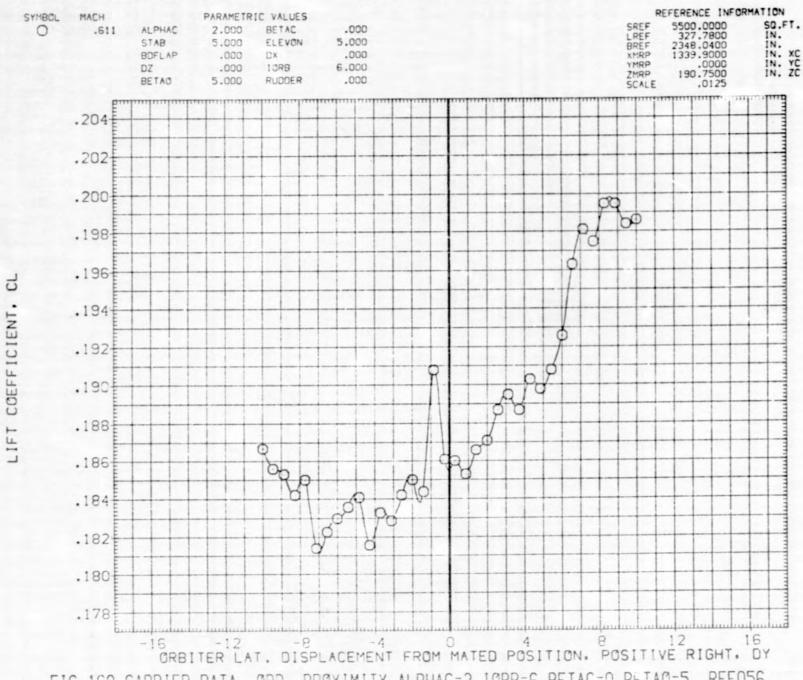


FIG. 160 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAC=5, RFE056

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE056)

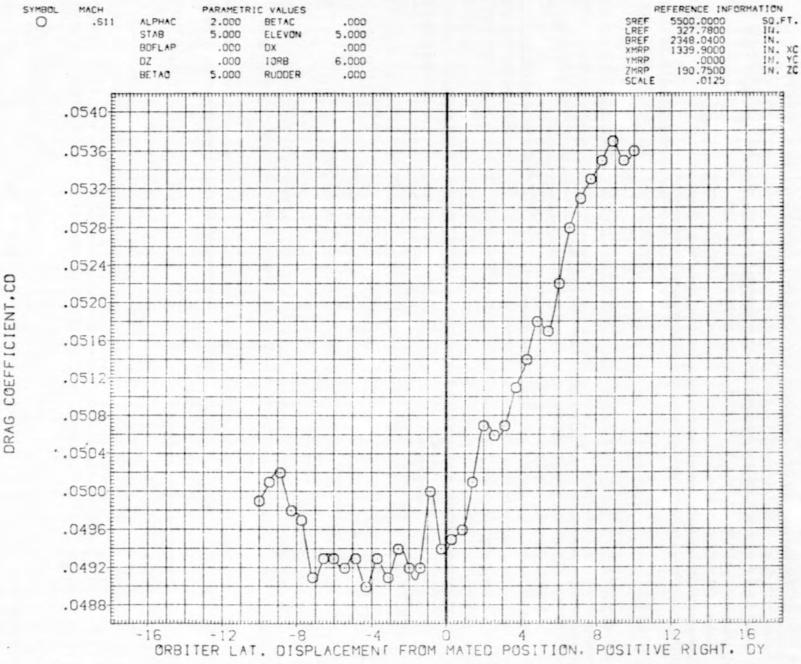


FIG.160 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAC=5, RFE056

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE057)

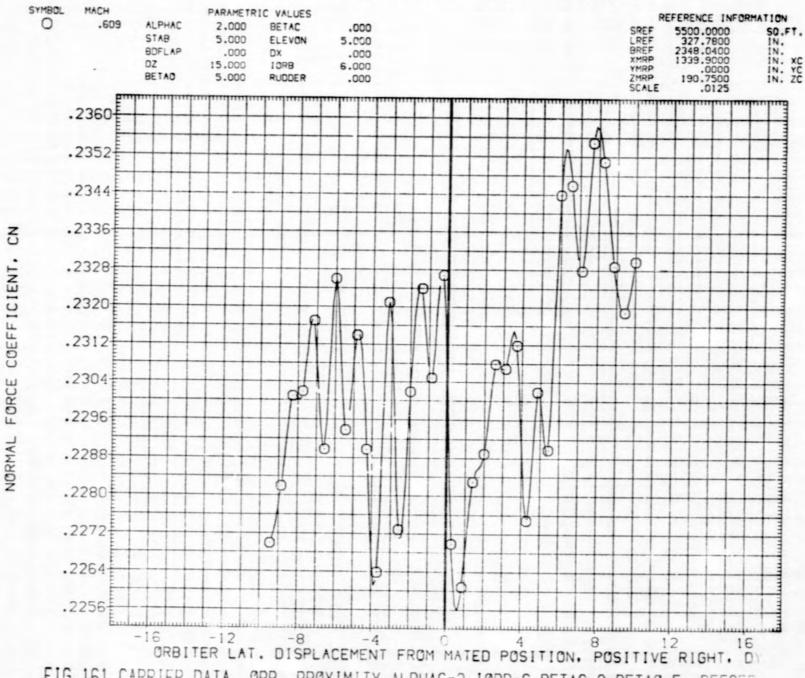


FIG.161 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, 10RB=6, BETAC=0, BETAO=5, RFEO57

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE057)

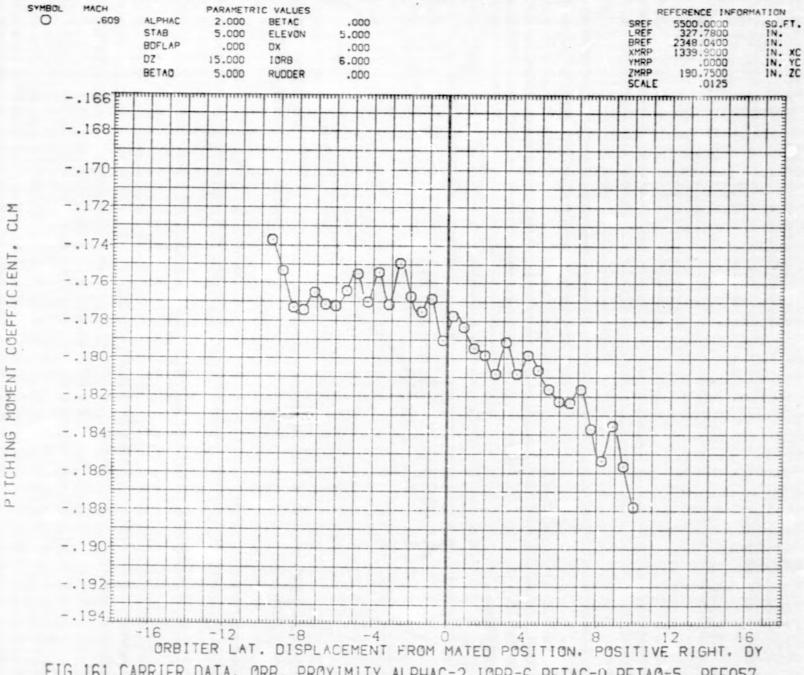
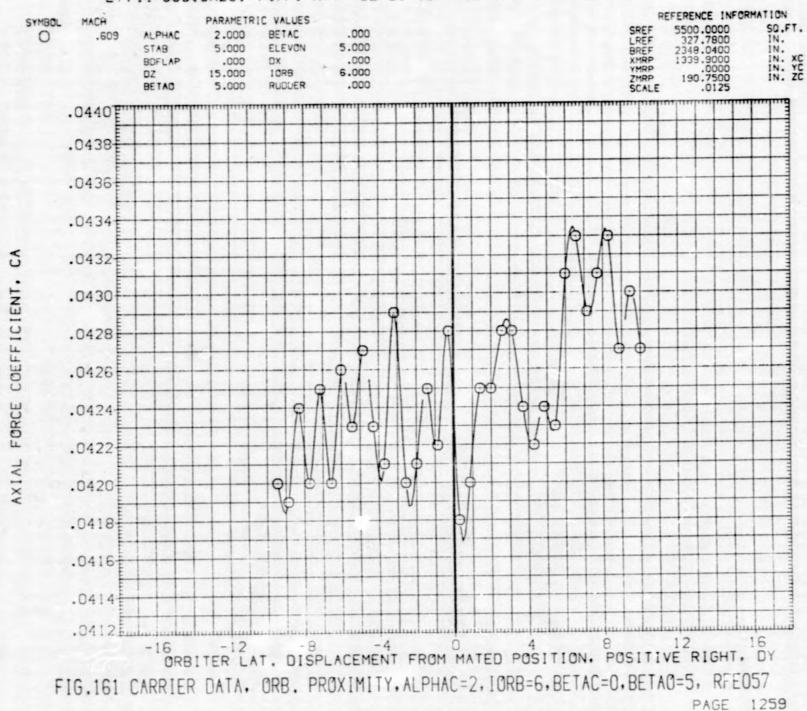


FIG.161 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=5, RFEO57

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE057)



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE057)

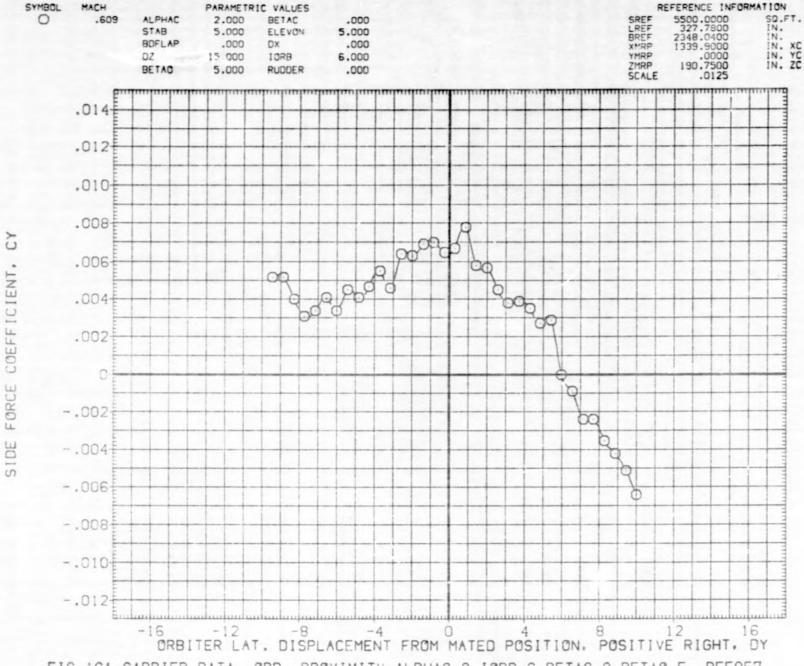
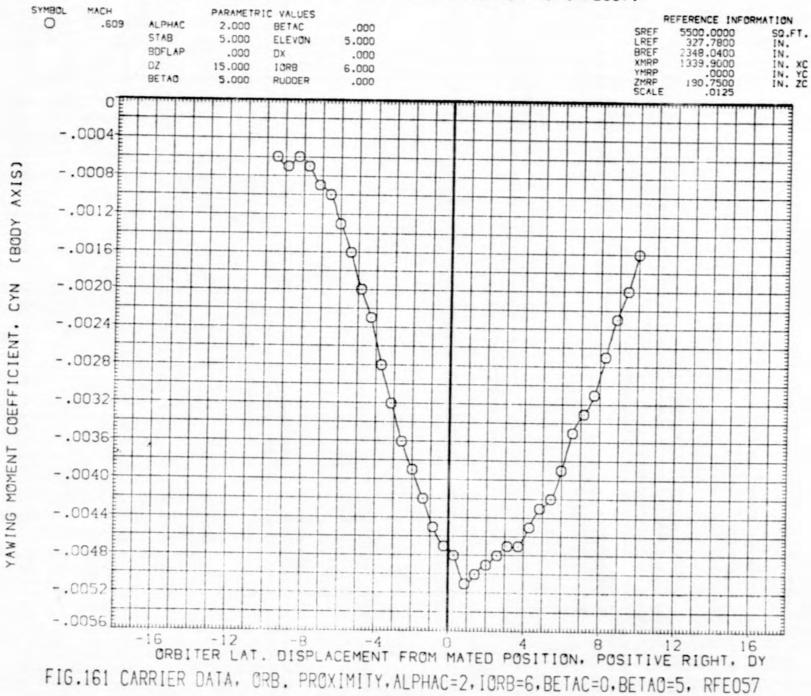


FIG.161 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=5, RFEO57

LTV44-559(CA26) 747/1 ATY 02 SI (CARRIER DATA) (RFE057)



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE057)

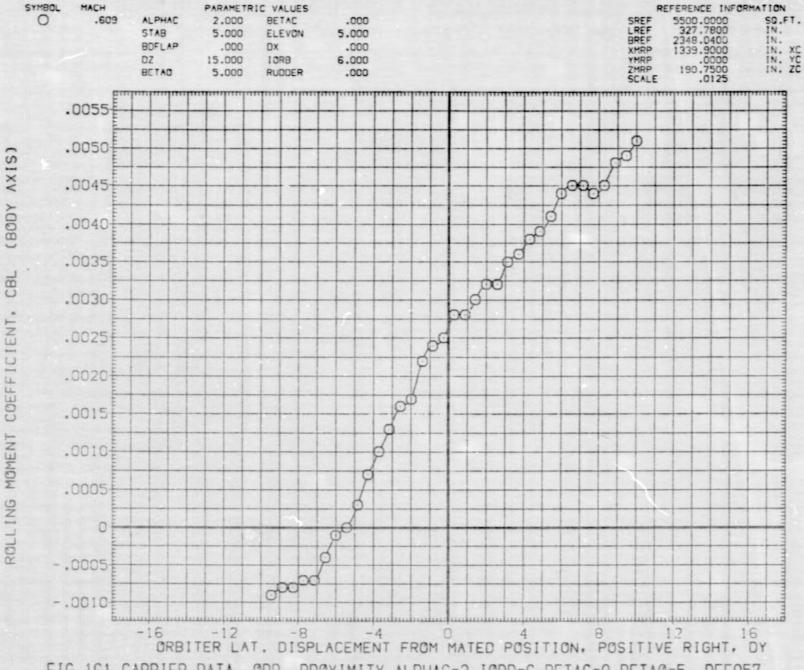
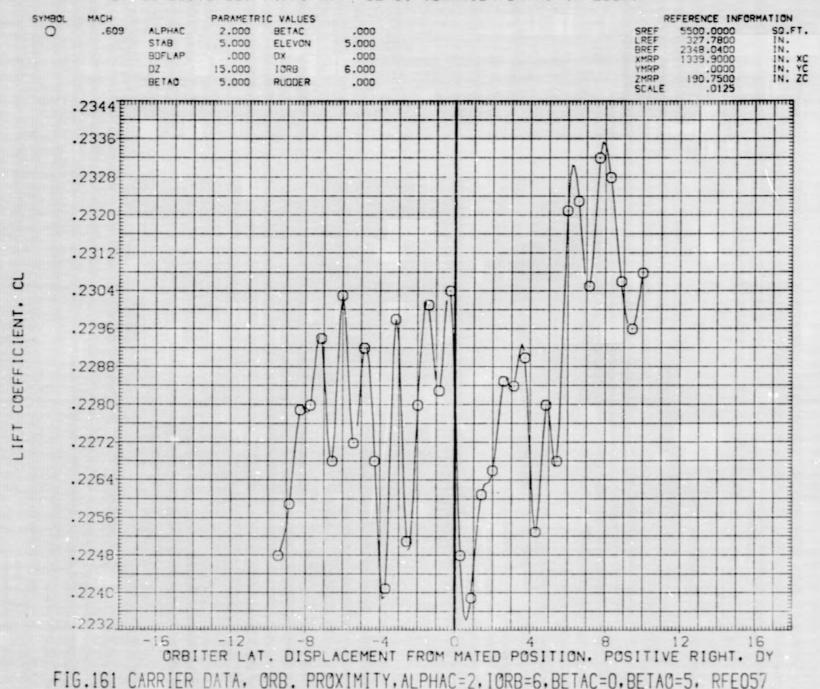


FIG.161 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=5, RFEO57

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE057)



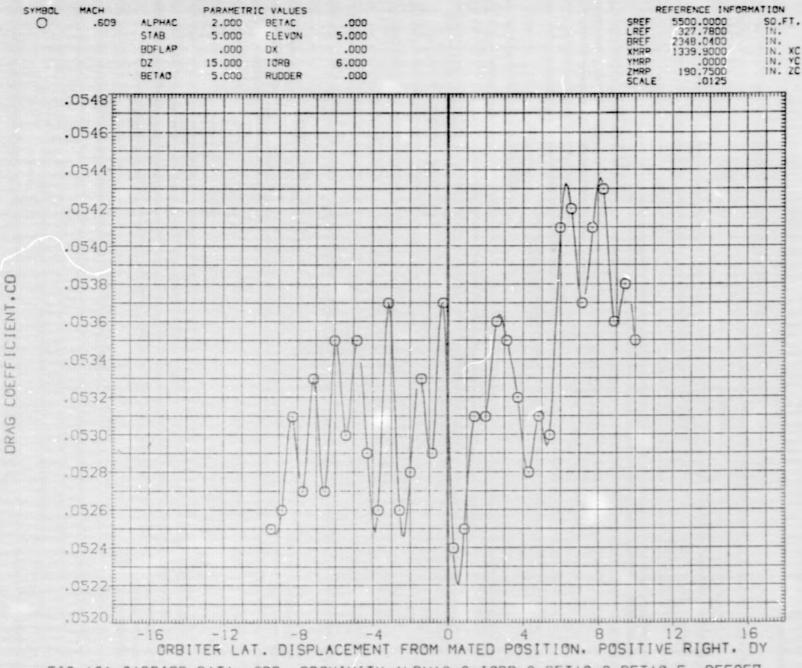
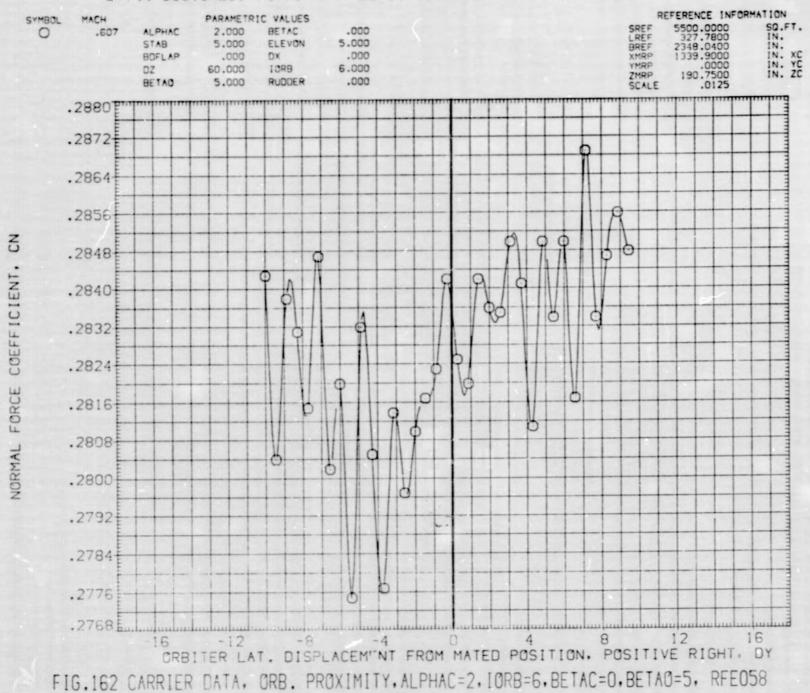


FIG.161 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=5, RFEO57

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE058)



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LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE058)

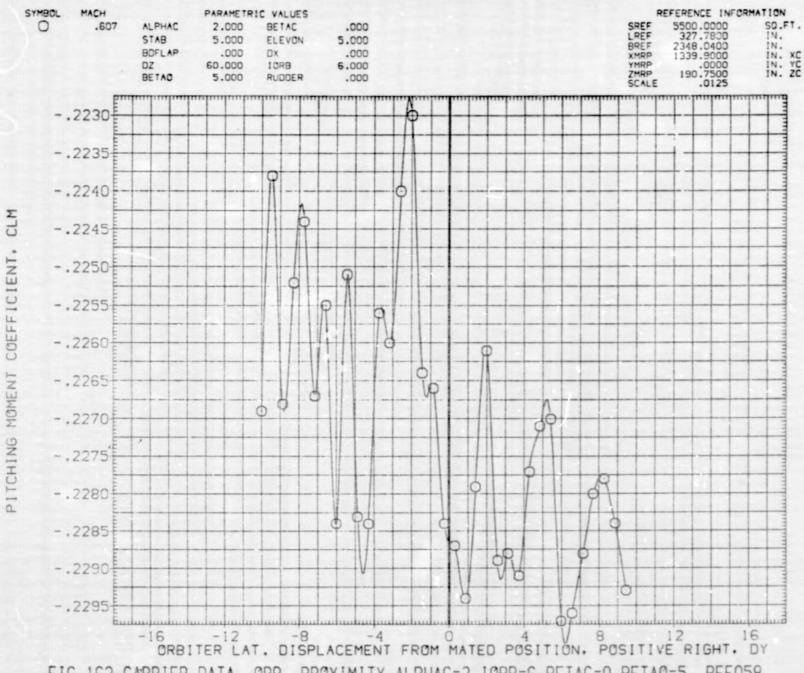
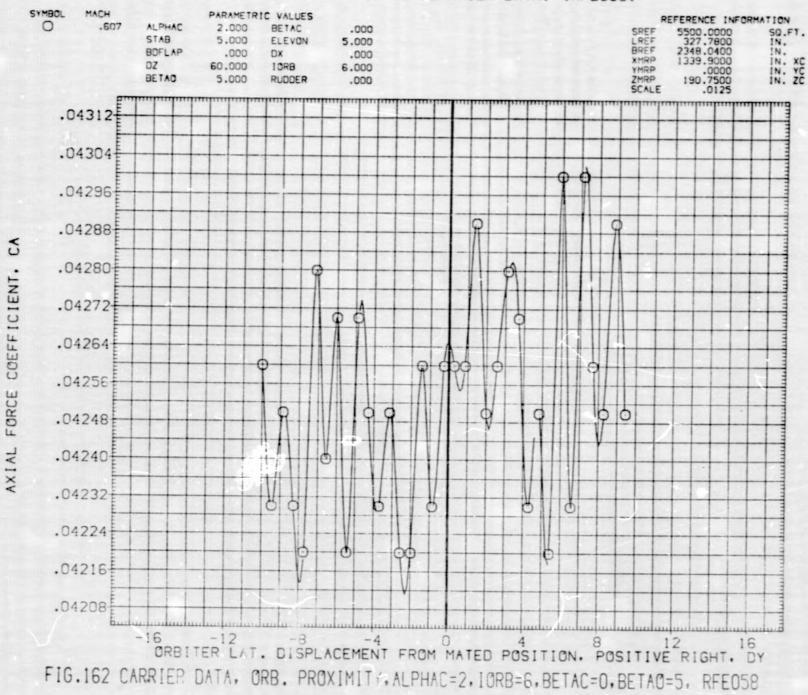


FIG.162 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=5, RFE058



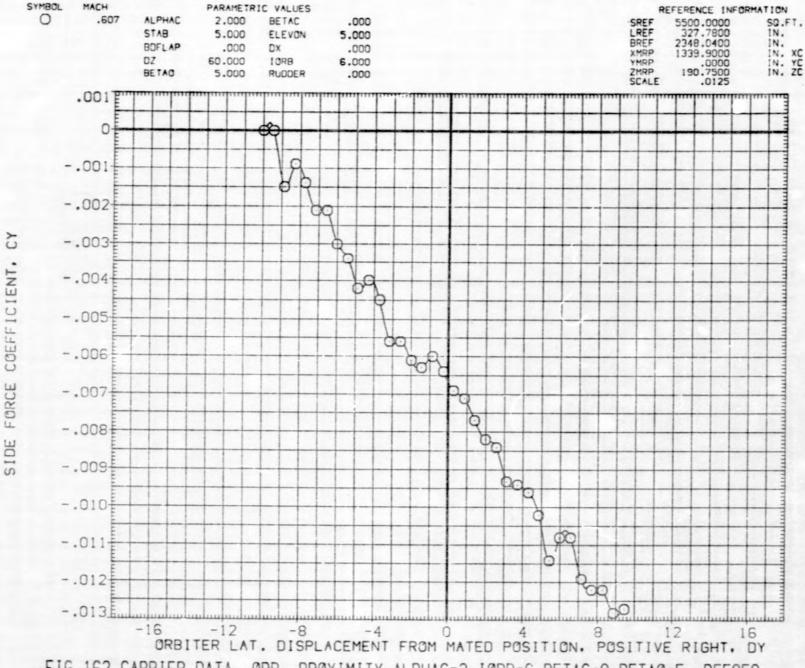
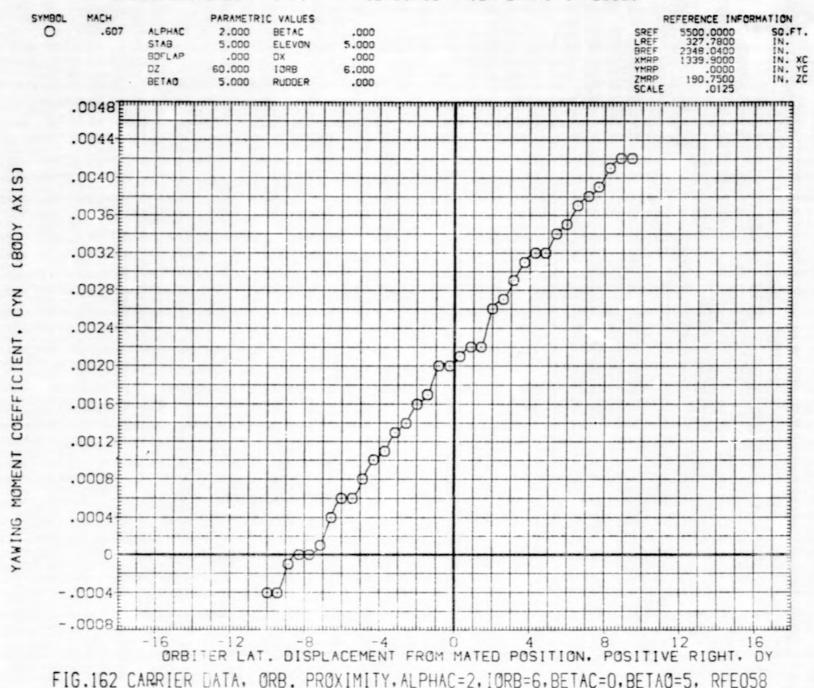


FIG.162 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=5, RFE058



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE058)

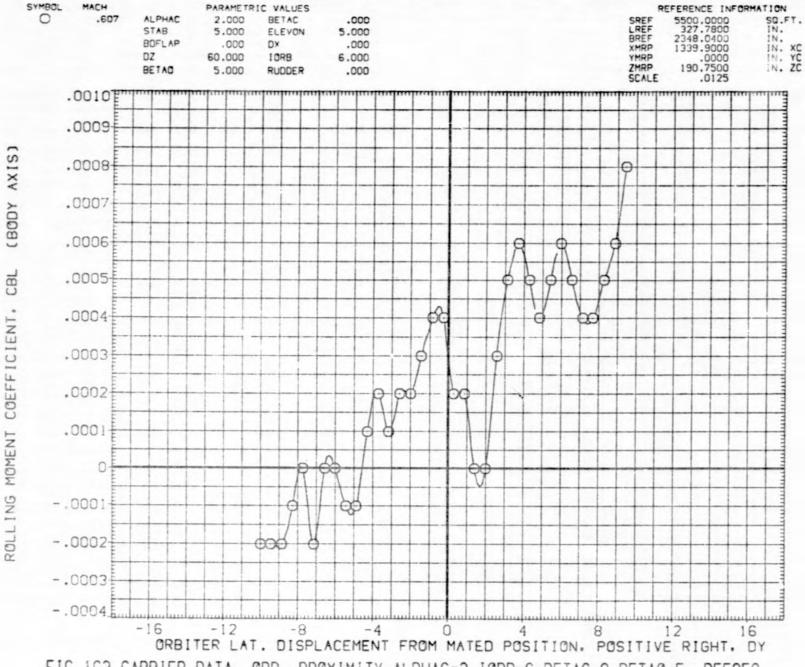
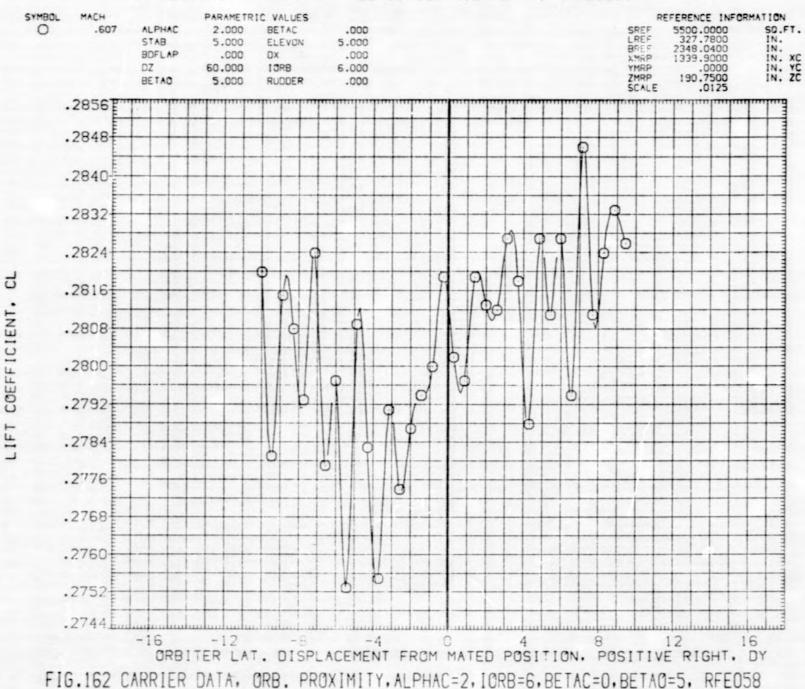


FIG.162 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=5, RFEO58



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE058)

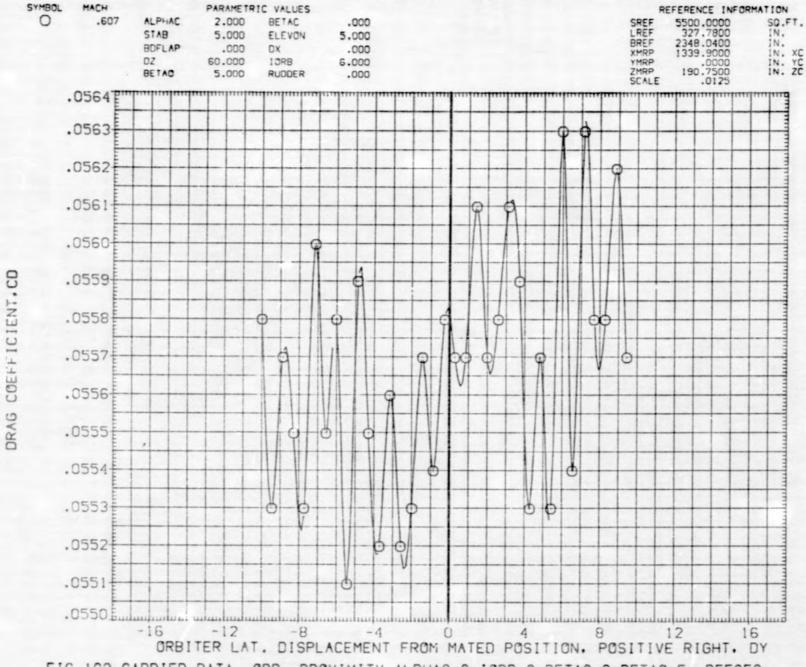
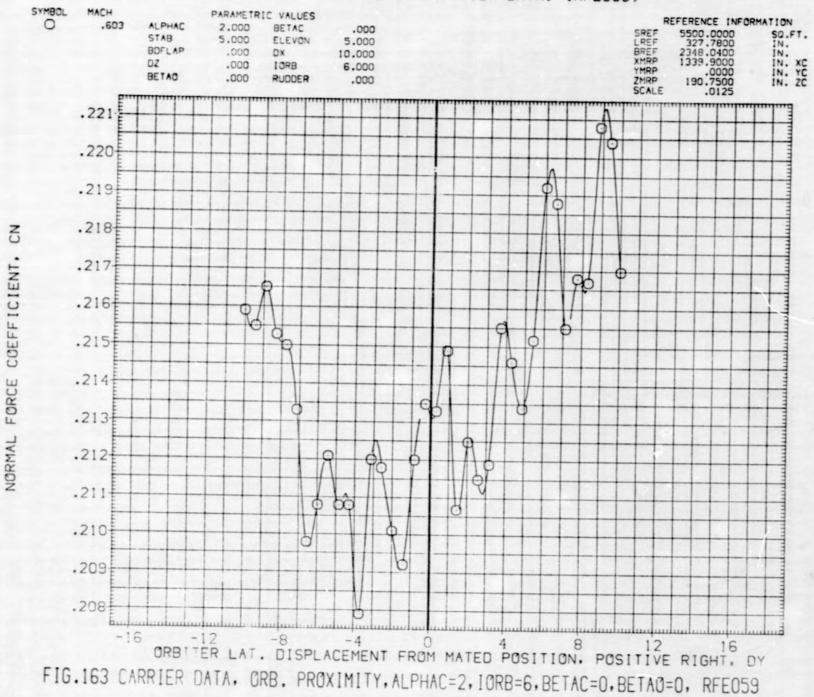


FIG.162 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=5, RFEO58

0



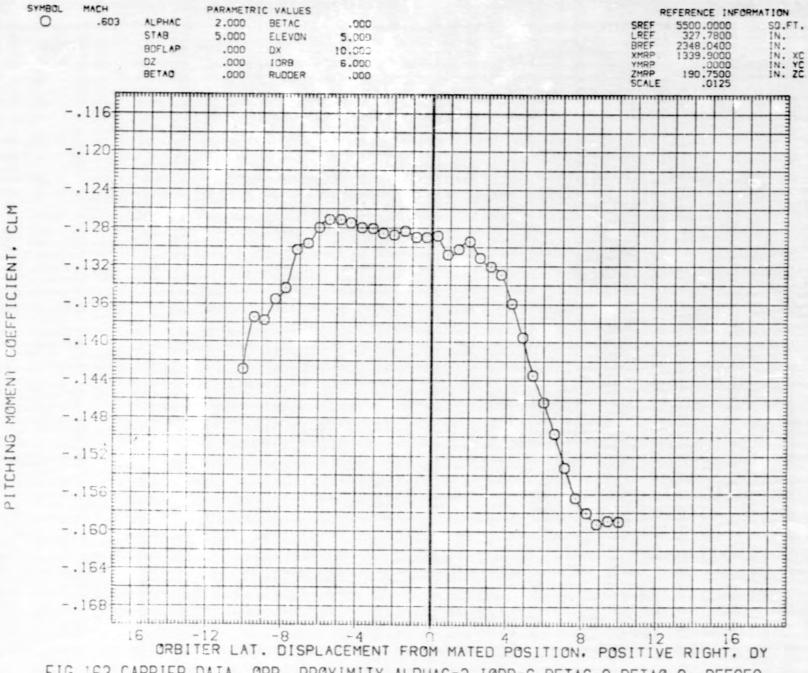
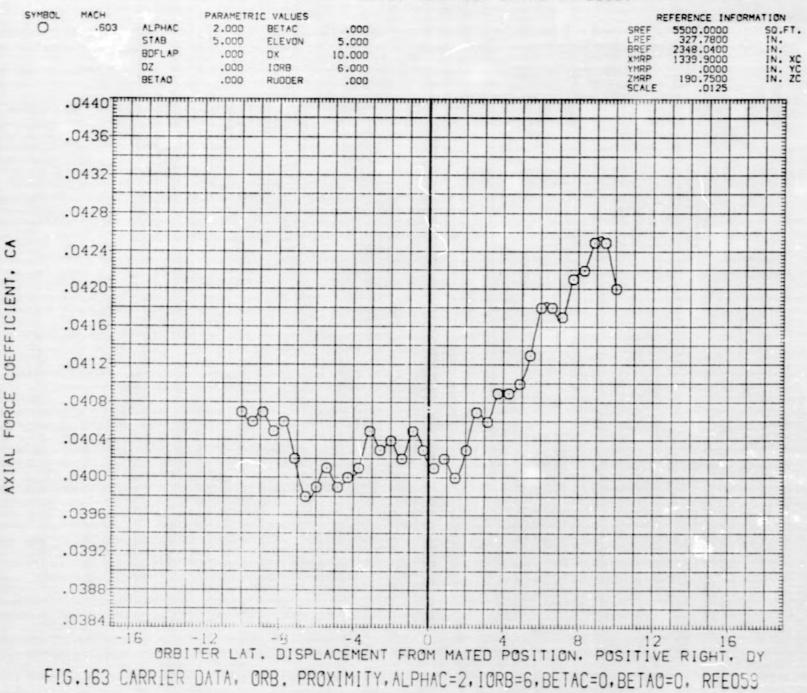


FIG.163 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, RFE059



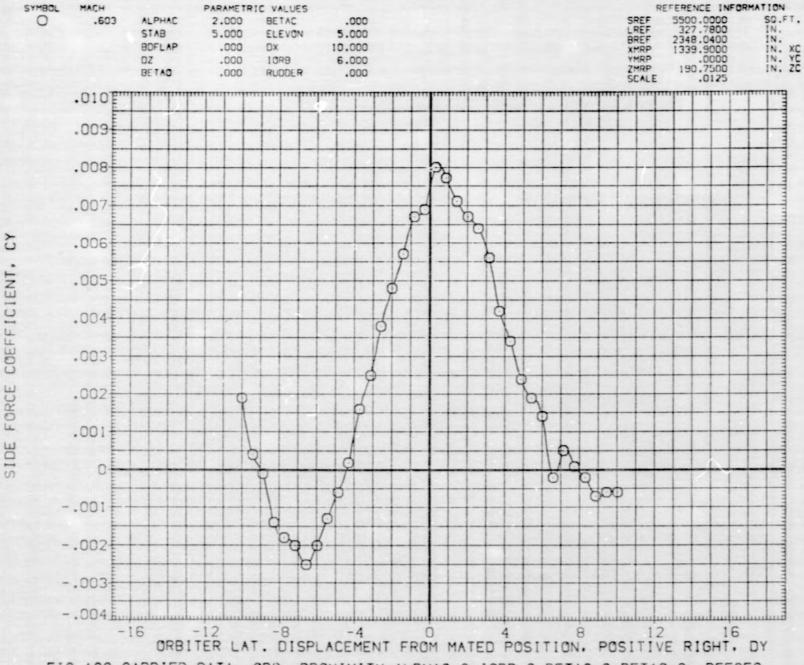
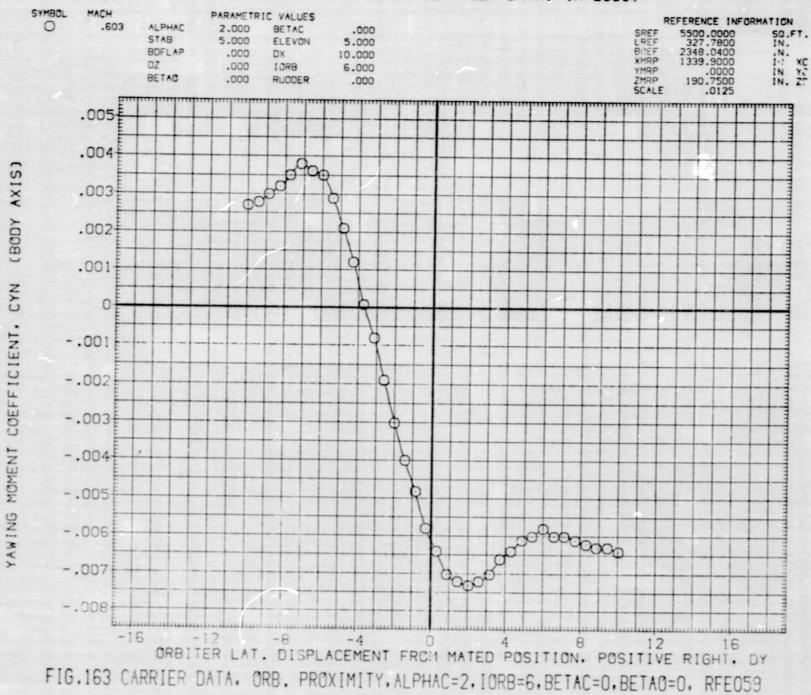


FIG.163 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, RFE059

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE059)



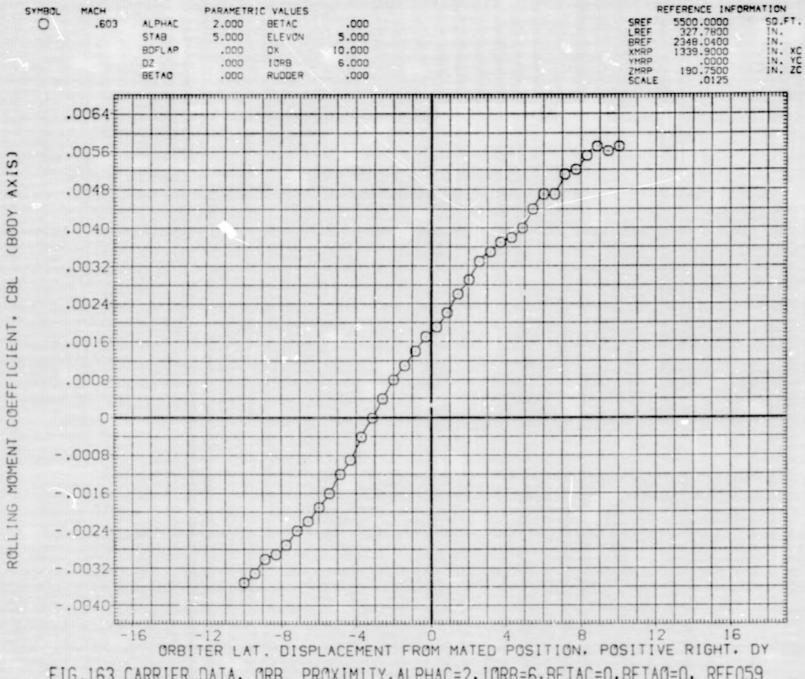


FIG.163 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, RFEO59 PAGE 1278

LTV44-559(CA26) 747/1 ATY 02 SI (CARRIER DATA) (RFE059)

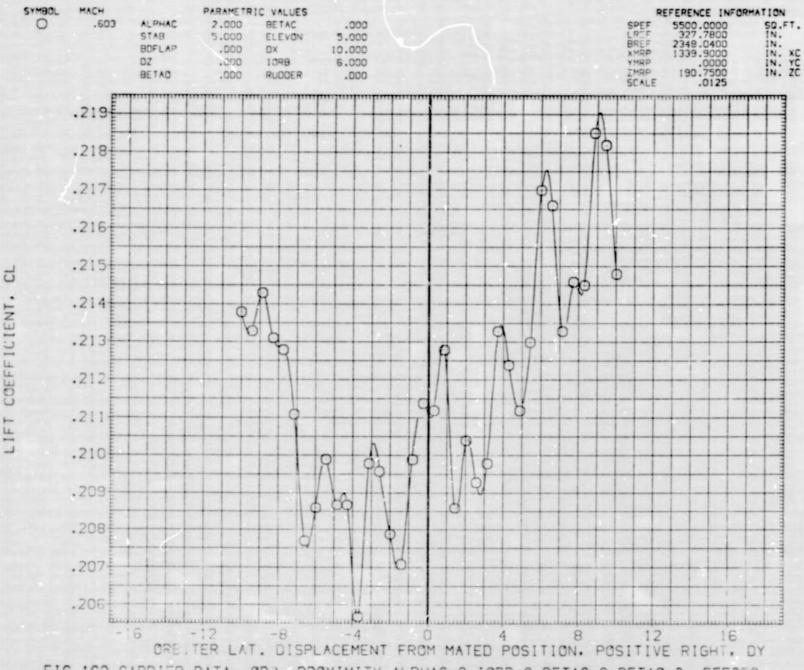


FIG.163 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, RFE059

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE059)

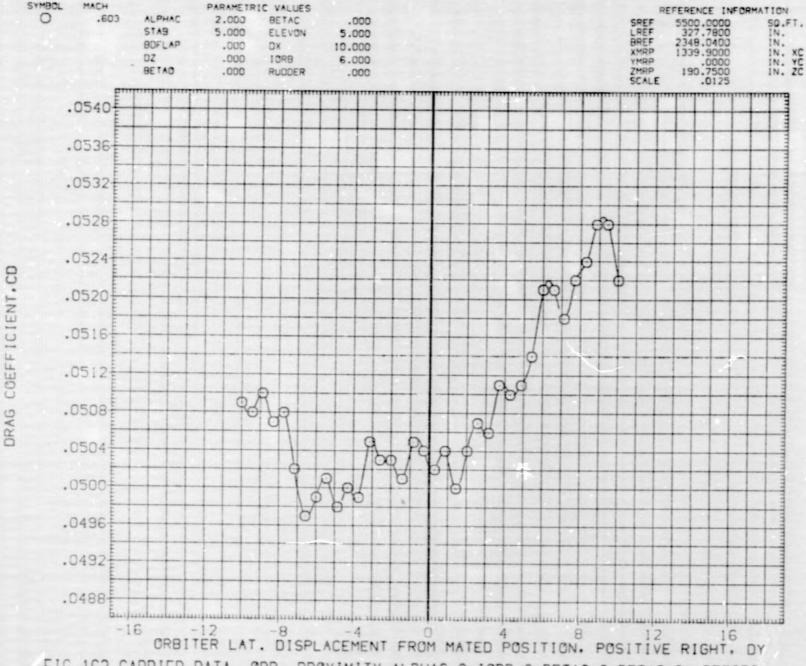
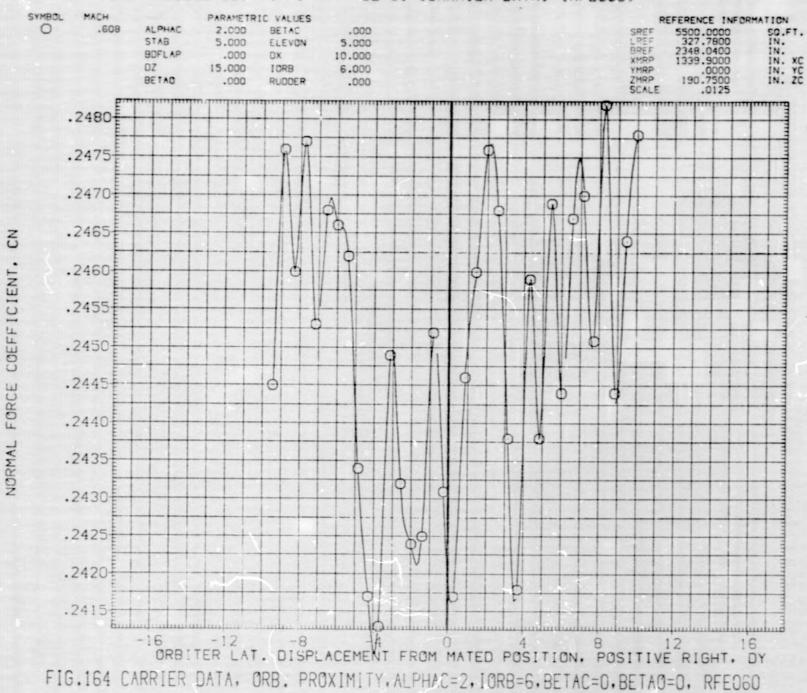


FIG.163 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, RFEO59



LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE060)

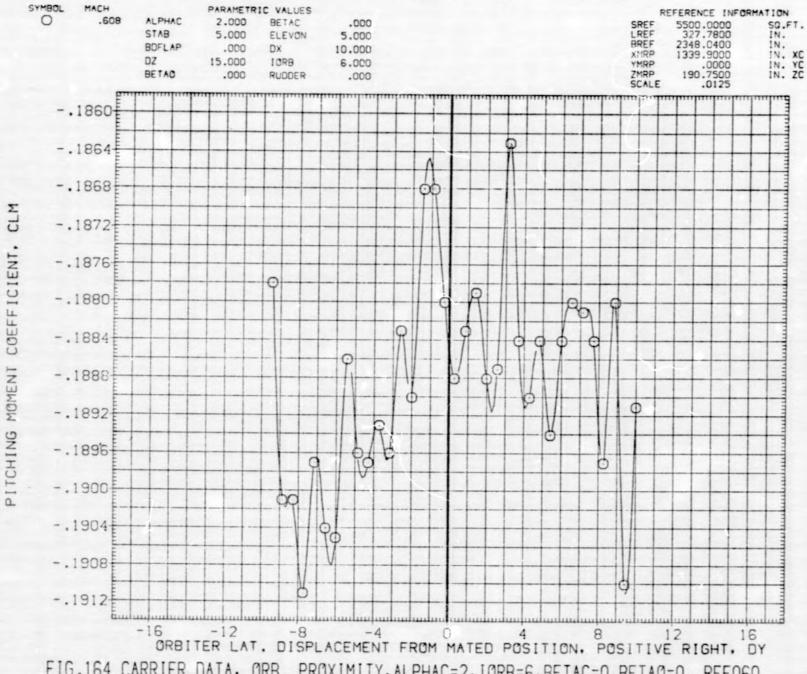


FIG.164 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, RFEO60

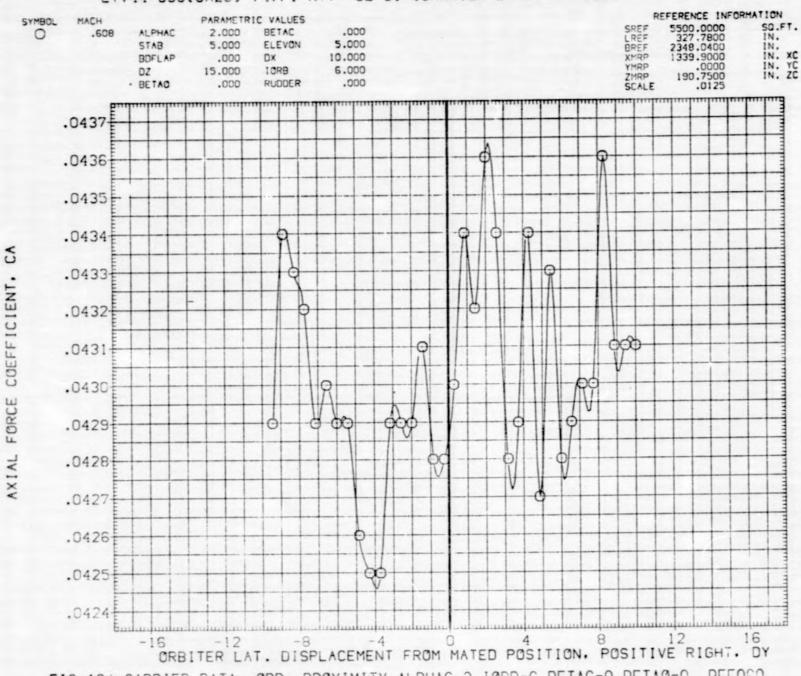


FIG.164 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, RFEO60

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE060)

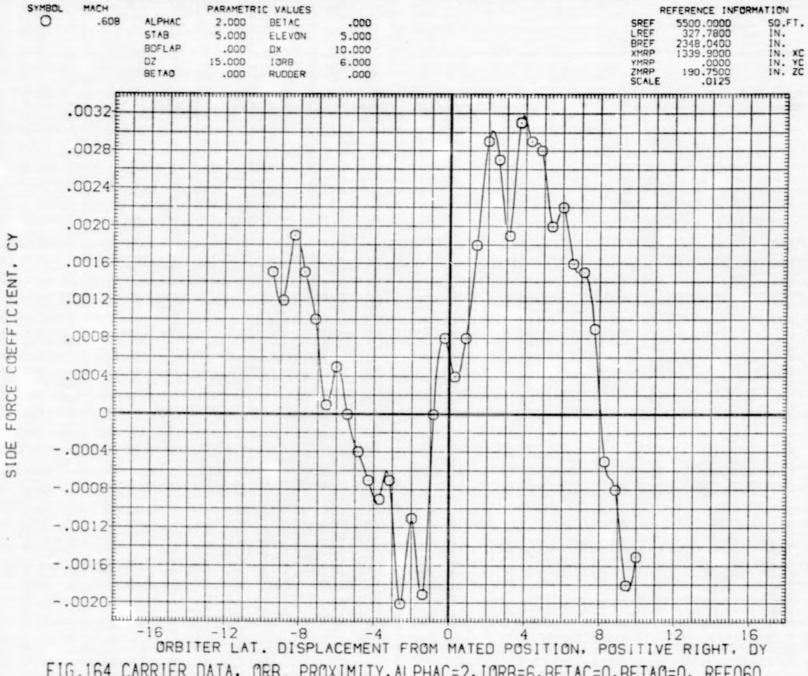


FIG. 164 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, RFEO60

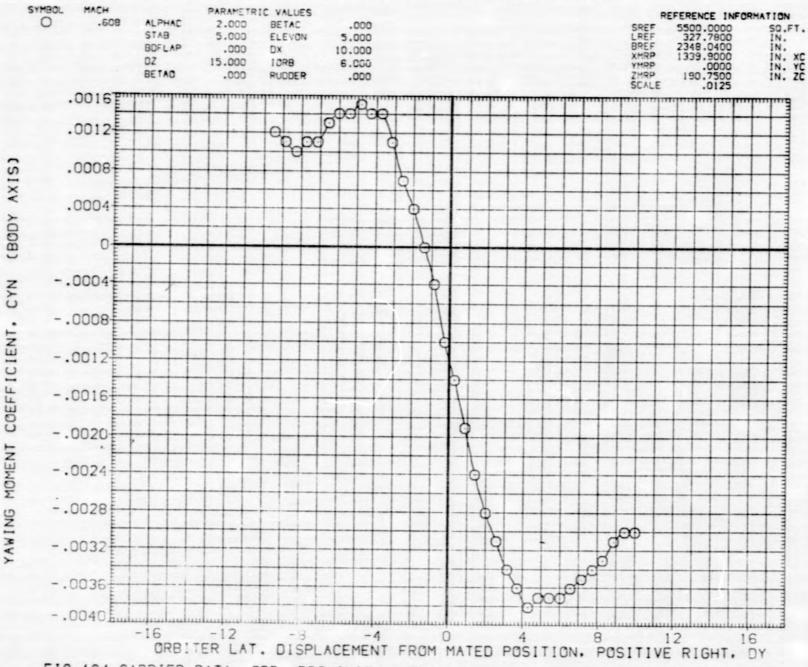


FIG.164 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, RFEO60

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE060)

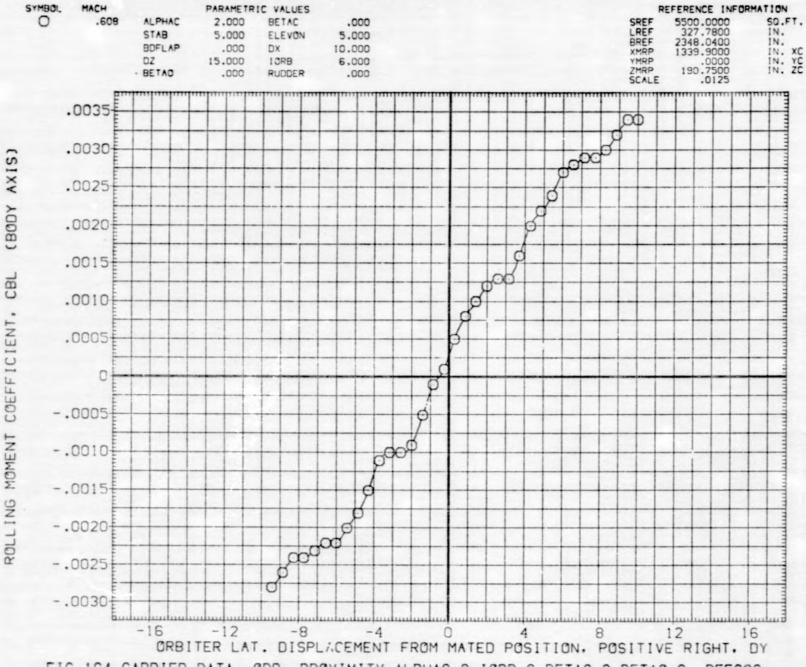


FIG.164 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, RFEO60

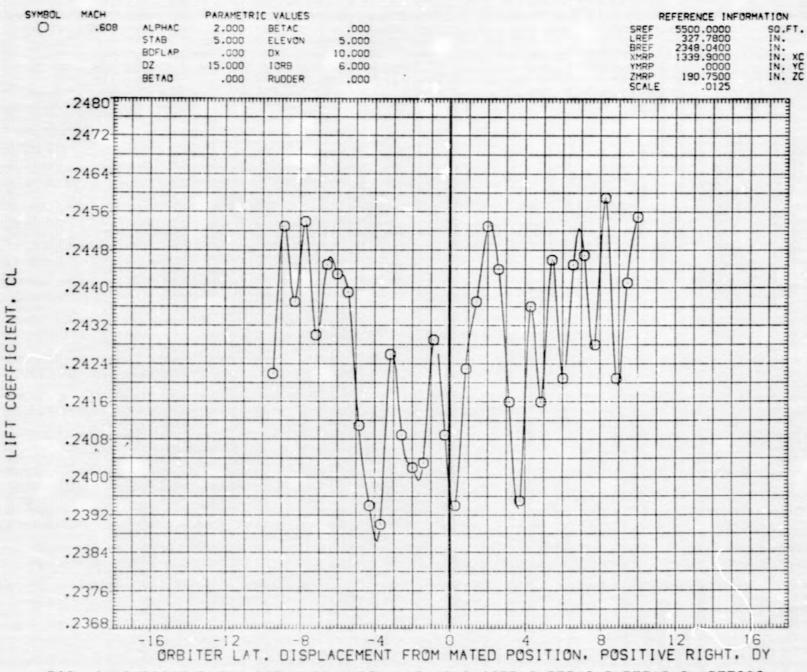


FIG.164 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, RFEO60

LTV44-559(CA26) 747/1 ATY 02 S1 (CARRIER DATA) (RFE060)

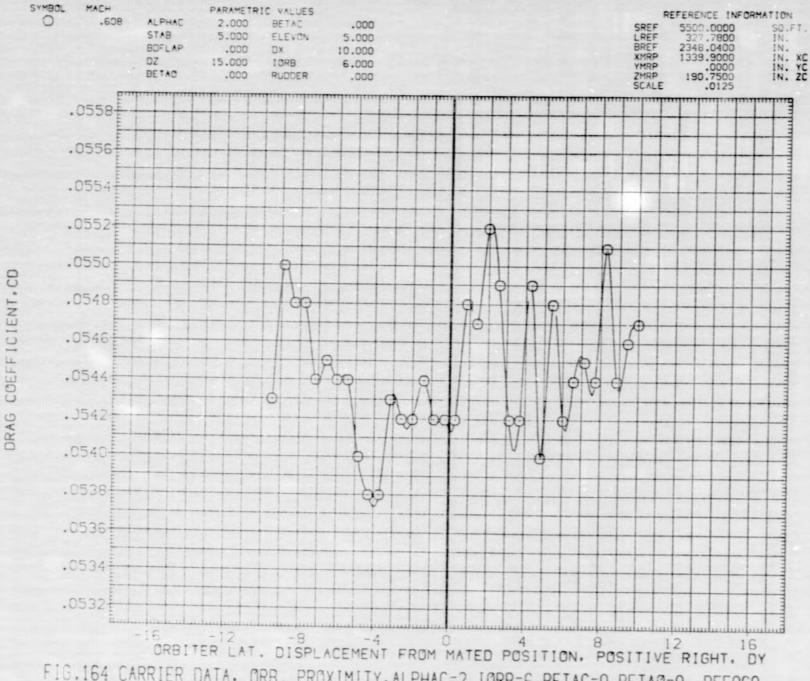


FIG.164 CARRIER DATA, ORB. PROXIMITY, ALPHAC=2, IORB=6, BETAC=0, BETAO=0, RFEO60